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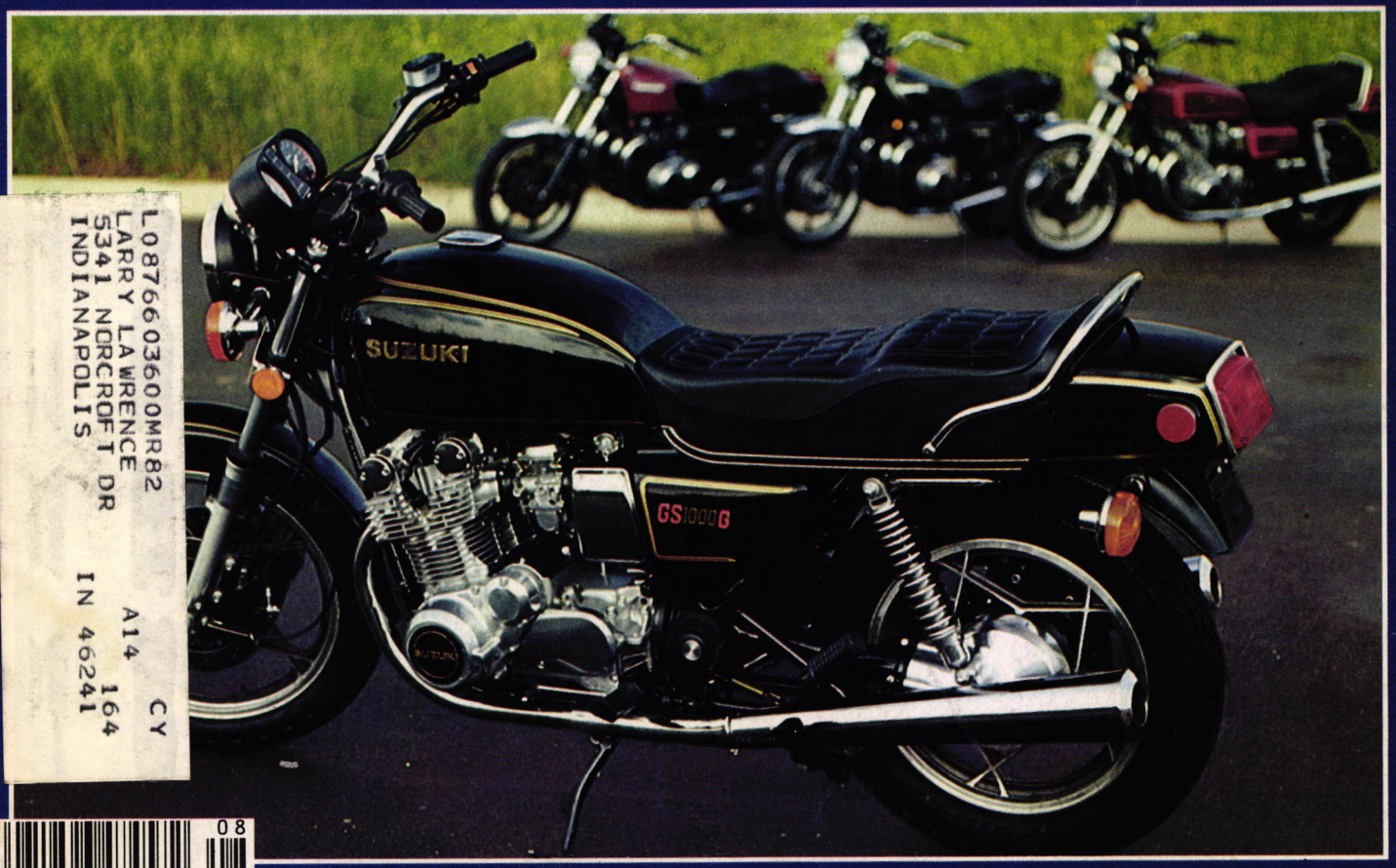


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**COVER:**
The Hyperdrive Fleet captured in readiness on the hanger deck by David Clark's Nikomat.

**QUOTE:**
"In a lot of ways, I figure, this business of equipping a motorcycle in a special way for a long trip is just a shuck. When you ride out of your driveway, you're either aboard a good motorcycle or you're not."—**Pg 54**

# CYCLE GUIDE'S CYCLE GUIDE

## OFF-ROAD

| MAKE & MODEL | ISSUE | ENGINE TYPE | WHEEL TRAVEL, IN. FRONT/REAR | WEIGHT, LBS | HORSEPOWER @ RPM* | | GEARS |
|---|---|---|---|---|---|---|---|
| Can-Am 175 Qualifier | Aug. '78 | Two-str. | 7.7/7.1 | 234 | 16.4 | 9000 | 6 |
| Can-Am 250 MX-5 | Jan. '79 | Two-str. | 10.8/10.0 | 218 | 32.1 | 8500 | 5 |
| Can-Am 250 Qualifier III | Feb. '80 | Two-str. | 9.7/9.8 | 230 | 25.2 | 8000 | 6 |
| Cam-Am 400 MX-6 | June '80 | Two-str. | 11.5/10.8 | 233 | 38.3 | 6500 | 5 |
| Honda CR125R | Jan. '80 | Two-str. | 11.5/10.8 | 202 | 20.8 | 10500 | 6 |
| Honda CR250R | May '80 | Two-str. | 11.8/11.0 | 222 | 27.5 | 7000 | 5 |
| Honda XL185 | March '79 | Four-str. | 7.4/6.75 | 239 | 11.2 | 7500 | 5 |
| Honda XL250S | Oct. '78 | Four-str. | 7.8/7.7 | 262 | 14.8 | 8000 | 5 |
| Honda XR185 | March '79 | Four-str. | 8.0/7.75 | 221 | 12.8 | 10000 | 6 |
| Honda XR500 | May '79 | Four-str. | 8.5/8.6 | 273 | 25.8 | 6500 | 5 |
| Husqvarna 125CR-'80 | Nov. '79 | Two-str. | 11.8/11.8 | 214 | 18.8 | 11000 | 6 |
| Husqvarna 250CR | Dec. '78 | Two-str. | 11.8/11.8 | 227 | 24.3 | 8500 | 6 |
| Husqvarna 250WR | Aug. '79 | Two-str. | 9.5/9.5 | 238 | 21.9 | 6500 | 6 |
| Kawasaki KLX250 | Sept. '79 | Four-str. | 9.8/10.5 | 239 | 15.2 | 8500 | 5 |
| Kawasaki KX125 A5 | Oct. '79 | Two-str. | 9.8/10.0 | 194 | 20.0 | 11000 | 6 |
| Kawasaki KX250 A5 | June '79 | Two-str. | 11.0/10.9 | 219 | 27.9 | 8000 | 5 |
| Kawasaki KX420 | July '80 | Two-str. | 11.0/11.3 | 250 | 34.0 | 7000 | 5 |
| Maico 400 MI | April '80 | Two-str. | 12.3/12.0 | 233 | 35.5 | 7000 | 5 |
| Maico 450 MI | April '80 | Two-str. | 12.3/12.0 | 236 | 37.0 | 7000 | 5 |
| Montesa Cappra 414 VE | Oct. '79 | Two-str. | 10.9/10.7 | 236 | 28.5 | 6500 | 4 |
| Suzuki PE175 | Aug. '78 | Two-str. | 8.8/9.4 | 216 | 11.2 | 9000 | 6 |
| Suzuki RM125T | Dec. '79 | Two-str. | 11.2/11.7 | 200 | 19.8 | 10500 | 6 |
| Suzuki RM250N | May '79 | Two-str. | 11.2/11.8 | 218 | 27.1 | 8000 | 5 |
| Suzuki RM400N | Sept. '79 | Two-str. | 11.2/11.8 | 229 | 28.1 | 7500 | 5 |
| SWM 175 ISDT | Aug. '78 | Two-str. | 10.0/10.0 | 220 | 17.3 | 9500 | 6 |
| SWM 250 MX | Nov. '78 | Two-str. | 10.0/10.0 | 216 | 29.5 | 9000 | 5 |
| Yamaha Pro-Tec 600 | Nov. '79 | Four-str. | 10.5/10.1 | 262 | 46.2 | 6500 | 5 |
| Yamaha IT250G | Dec. '79 | Two-str. | 9.8/9.8 | 244 | 27.7 | 8000 | 6 |
| Yamaha YZ250G | March '80 | Two-str. | 11.2/11.6 | 217 | 29.6 | 8000 | 6 |
| Yamaha YZ465G | July '80 | Two-str. | 11.2/11.8 | 228 | 39.4 | 7000 | 5 |

*Horsepower shown is taken at the rear wheel and does not account for transmission losses between the engine and rear wheel. These results may differ from manufacturer's claims or from results obtained using a different dynamometer.

## STREET

| MAKE & MODEL | ISSUE | ENGINE TYPE* | QUARTER-MILE, SEC./MPH | TOP SPEED, MPH | WEIGHT, LBS | FUEL CONSUMPTION, MPG | STOPPING DISTANCE FROM 60 MPH, FT. |
|---|---|---|---|---|---|---|---|
| BMW R80/7 | Oct. '78 | 2C/G | 13.47/97.9 | 104 | 442 | 38-46 | 138 |
| BMW R100T (Dressed) | Aug. '79 | 2C/G | 13.81/92.9 | 119 | 521 | 38-53 | 142 |
| Ducati Darmah | Sept. '78 | 90-deg. 2D/F | 13.41/97.5 | 118 | 487 | 25-40 | 120 |
| Dunstall-Suzuki GS1000 CS | July '79 | 4A/F | 11.32/117.0 | 154 | 488 | 37-.5 | 124 |
| H-D CLE Sidecar | Sept. '79 | 45-deg. 2D/F | 17.60/69.3 | 91 | 1036 | 25-35 | 181 |
| Honda CB400T Hawk | March '80 | 2A/F | 14.37/88.6 | 100 | 391 | 51-65 | 139 |
| Honda CX500 | Feb. '78 | 80-deg. 2E/G | 13.86/93.4 | 106 | 449 | 28-50 | 134 |
| Honda CX500 Custom | Aug. '79 | 80-deg. 2E/G | 14.12/92.9 | 102 | 468 | 44-51 | 146 |
| Honda CB650 | Feb. '79 | 4A/F | 13.29/99.9 | 113 | 447 | 37-51 | 131 |
| Honda CB650 Custom | Dec. '79 | 4A/F | 13.10/99.8 | 113 | 447 | 44-52 | 131 |
| Honda CB750F | Oct. '79 | 4A/F | 12.41/106.8 | 128 | 524 | 31-52 | 135 |
| Honda CB750K | Nov. '79 | 4A/F | 12.77/105.8 | 124 | 525 | 38-52 | 130 |
| Honda CB900C | June '80 | 4A/G | 12.44/107.9 | 132 | 588 | 37-44 | 155 |
| Honda Interstate | March '80 | 4C/G | 13.40/96.0 | 121 | 718 | 33-45 | 146 |
| Honda CBX | Dec. '79 | 6A/F | 11.86/114.5 | 130 | 555 | 19-36 | 145 |
| Kawasaki KZ650 Custom | May '79 | 4A/F | 13.16/100.2 | 116 | 483 | 45-49 | 125 |
| Kawasaki KZ750 | May '80 | 4A/F | 12.50/107.8 | 127 | 471 | 39-50 | 134 |
| Kawasaki KZ1000 MkII | April '79 | 4A/F | 12.06/110.3 | 130 | 545 | 34-46 | 129 |
| Kawasaki KZ1000 ST | April '79 | 4A/G | 12.23/111.0 | 132 | 574 | 38-45 | 130 |
| Kawasaki Z1-R | April '80 | 4A/F | 12.24/110.6 | 130 | 552 | 35-48 | 131 |
| Kawasaki KZ1300 | March '79 | 6A/G | 11.79/115.7 | 140 | 664 | 31-39 | 133 |
| Laverda 1200 Jota | Dec. '78 | 3A/F | 12.54/105.0 | 121 | 518 | 29-37 | 145 |
| Suzuki GS450 ST | May '80 | 2A/F | 14.09/92.5 | 100 | 397 | 55-57 | 127 |
| Suzuki GS750ET | July '80 | 4A/F | 12.62/105.5 | 122 | 523 | 39-55 | 130 |
| Suzuki GS850N | March '79 | 4A/G | 12.81/104.0 | 116 | 566 | 35-45 | 153 |
| Suzuki GS1000LN | June '79 | 4A/F | 12.39/108.4 | 130 | 526 | 39-50 | 129 |
| Suzuki GS1000S | July '79 | 4A/F | 12.43/110.0 | 132 | 539 | 39-45 | 124 |
| Suzuki GS1100ET | April '80 | 4A/F | 11.43/118.3 | 140 | 544 | 37-49 | 116 |
| Triumph Bonneville | Dec. '78 | 2A/F | 13.41/96.2 | 110 | 414 | 42-49 | NA |
| Triumph Bonneville Special | July '79 | 2A/F | 13.94/96.2 | 110 | 411 | 45-55 | 175 |
| Yamaha RD400F | June '79 | Two-str. 2A/F | 14.16/90.2 | 98 | 355 | 30-43 | 129 |
| Yamaha SR500E | April '78 | 1B/F | 14.98/84.2 | 92 | 364 | 49-58 | 132 |
| Yamaha XJ650 Maxim I | June '80 | 4A/G | 12.60/107.4 | 120 | 453 | 40-54 | 128 |
| Yamaha TZ750E | April '79 | Two-str. 4A/F | 11.62/125.5 | 180 | 331 | NA | NA |
| Yamaha XS850LG | Feb. '80 | 3A/G | 13.10/101.7 | 116 | 548 | 42-55 | 144 |
| Yamaha XS1100F | Nov. '78 | 4A/G | 12.12/111.9 | 134 | 573 | 29-47 | 136 |
| Yamaha XS1100SG | Jan. '80 | 4A/G | 11.94/112.6 | 135 | 572 | 42-47 | 129 |

*A-Transverse Vertical, B-Vertical, (single-cylinder only), C-Horizontally Opposed, D-Tandem Vee, E-Transverse Vee, /F-Chain Final Drive, /G-Shaft Final Drive, /H-Belt Final Drive


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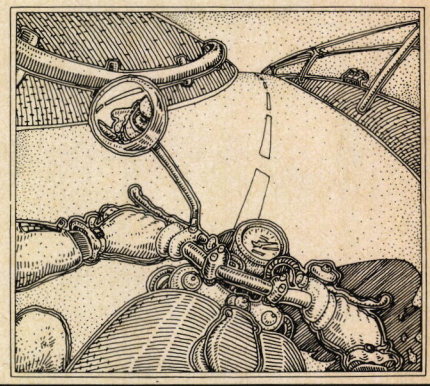

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# Editorial

## Reading The Tea Leaves

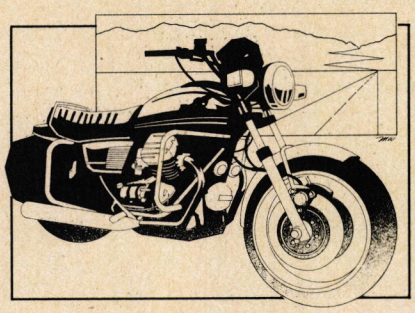
*Glimmerings of the motorcycle's future*

• As new-model introduction time approaches each fall, everyone involved with motorcycles likes to speculate about the next bit of techno-trickery likely to roll off the assembly line. You may have thought that only you people out there in buyerland are subject to this fascination, but you should know that the disease is epidemic throughout the motorcycle industry as well. What's more, it's a year-round phenomenon. If you want to know the truth, a sizable portion of the industry sits around a lot and asks itself a single question—"What's Next?" Whether they happen to be engineers, product planners, stylists, dealers or journalists, the same question haunts them whenever they think about bikes.

I freely admit that I'm as fascinated by the answer to "What's Next?" as anybody. I spend a lot of time uncovering facts and wild rumors for "Guide Lines" just like everyone else around here, and I'm always anxious to learn about what the other undercover agents employed by Works have discovered. I guess I'm transfixed by the whole notion of motorcycle futures because bikes express so well a relentless assault on the leading edge of technology.

My latest fast fix of futurethink came from a meeting between journalists of the leading motorcycle magazines and representatives from American Honda, Honda R&D and its U.S. agent, Honda Research of California. The topic of discussion was the street bike of the next decade. Unlike the meetings that took place between *CG* and industry representatives in the planning stages of January's feature "Into the '80s," the purpose here was to assemble the thoughts of the journalists rather than the industry experts. So in my notes from that discussion lie answers to the question "What's Next?" presumably gleaned from the minds of several million motorcycle magazine readers. I figure you're as interested in the results of this pulse-taking of the American motorcyclist as I am, and I'm sure the insights will stoke the fires of your imagination just as they have mine.

Touring lay at the top of the list of topics pursued during the meeting, and agreement existed on all sides that the future looked bright. Given America's predilection for motorized vacations, the escalating cost of living and the rising price of gas, motorcycle touring will offer relatively inexpensive and economical recreation to the millions of people now making do with campers and



motorhomes. Instead of visiting Yellowstone Park in a Winnebago, a lot of people are going to make the trip on a motorcycle equipped with fairing and saddlebags during the summers of the Eighties.

The touring bikes themselves will probably be different, though, for these same priorities forecast a swing to middleweight machinery. Lightweight and comfortable, they will also emphasize flexibility, probably through the adaptation of modular, quick-detach accessories, in order to function as both commuter bikes and long-distance vacation cruisers. A new spirit of rationality would also have to be manifested by this new breed of touring bike, for the people who will look at them as recreational vehicles rather than just motorcycles will not tolerate fuel consumption, repair costs or insurance rates in excess of those expected for automobiles.

The touring bike also will have to offer some new features to make long-distance riding more palatable to the vacationer—like high-quality seats, easy tire repair and lengthy cruising distances. The anti-skid braking systems that have been in the experimental stage for so long now could persuade large numbers of people that motorcycles are truly safe at last. The single most important improvement probably lies in the quality of touring accessories. It's not enough that the next innovation in luggage will probably be color-matched detachable bags. The fit and finish should give the impression of automotive-like value, so when you purchase such a bike, you'll feel like you're getting a little equity in return.

When it came time to discuss the new breed of American-style motorcycles, customs, specials and the like, not many changes were forecast by those of us in the discussion group. The American motorcycle has been evolving the same look since just after World War II, reaching the height of expression in the Triumph custom of the Sixties. A few changes will probably be made to the formula, though, largely in terms of a more successful integration of style and function. Honda's CB900C represents the harbinger of less radically styled American bikes that force few compromises in terms of comfort and performance. Furthermore, it could be that the most radical proponents of the American idiom will isolate themselves from the mainstream and find themselves building bikes as irrelevant as the 1967 street scrambler to the average motorcycle buyer.

If you're waiting for innovative technology, we journalists speculate you should look for it in the form of a sport bike. You enthusiasts are primed for a radical change in motorcycle design as important as the Honda 750 of 1969. That change probably lies in a vee-twin or vee-four engine configuration (already thought to be in the offing for 1981) and a moratorium on superbikes. Classic standards of performance like balance, control and flexibility will replace speed as the prime arbiters of sportiness thanks to rising fuel costs and insurance fees. Even so, increased complexity like watercooling and fuel injection will meet some resistance, since they represent a trend away from do-it-yourself maintenance. And since such bikes will serve as recreational sport vehicles, uncomplicated maintenance or extended service intervals will make them seem less frivolous.

It wasn't possible to draw a bottom line to this journalistic exercise in future look, yet if you can trust our sense of the future, a number of interesting generalizations can be made. First, a major shift in emphasis to the medium-displacement motorcycle is already taking place, although a few big speedburners will trickle out of Japan for 1981. Second, the ability to combine different sorts of motorcycle recreation, from racing to commuting, will be valued more highly than specialization. And last, sporting riders will reward good fuel economy and easy maintenance procedures at the same time that they breathlessly select the latest technology for their everyday sport riding enjoyment.

It's always difficult to know if journalists are taking their own pulse rather than that of their readers, but it could be that the participants in this discussion have provided a sense of the priorities that will shape the future of the motorcycle in America. As far as accuracy goes, of course, we'll all just have to keep reading "Guide Lines" and see if these predictions come true.

*—Michael Jordan*

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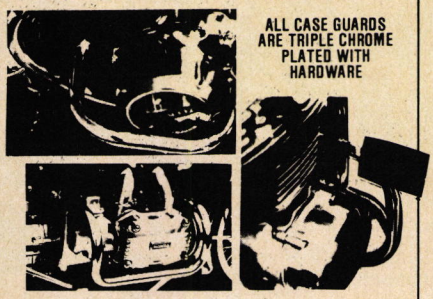

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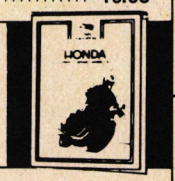


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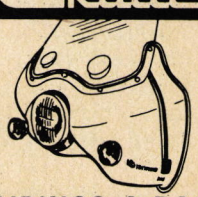

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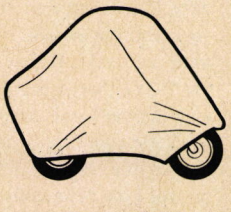

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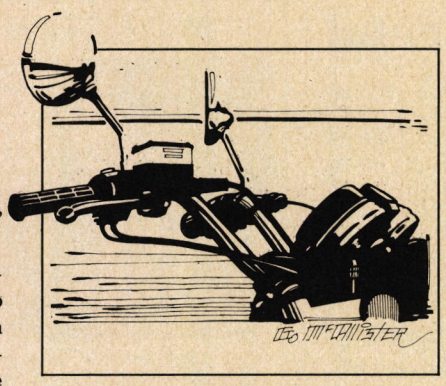
# Thompson At Large

## Handlebar Heroes

*Coming to grips with reality*



- "Nice bike," says he.
  "Thanks," says I.
  "Yours?" says he.
  "Yamaha's," says I.
  "Huh?" says he.
  "Never mind," says I.
  "Nice bike," says he, "but the bars suck."
  "Thanks," says I, "see you around."

Which in a way tells you a lot. For instance: You say you want to know how to figure out when you've punched through the roller disco-Top 40-heythatsbitchin-man membrane, how to know when you've finally reached the first gray ledges of middle age? Simple. Listen to some guy tell you your handlebar sucks, and apply this simple test: If you care, you probably have your brain tuned to All-The-Hits-All-The-Time and you're still on the Other Side, with the Roller Brigades. But if you don't care, you're through the membrane. Forever.

You're also right, of course, because only airheads (and the unpained young) still believe that handlebars are primarily styling devices. Airheads who probably ride their Specials and LTDs down life's freeway wondering why their backs hurt after about 20 minutes, right about *there*, just above the belt, or even why the front-end wobbles when they try to keep up with their café racer buddies.

Of course, the café guys aren't that much better, not out here in the grinding steel canyons of the Real World. Their full-tuck foolishness makes perfect sense for Turn Nine, maybe, but clip-ons are usually just as cosmetic an appurtenance on a street bike as those ape-hangers you laughed at the other day.

Listen, I'm too far into the aches and pains of middle age to care what anybody tells me about my handlebar. I only listen to Father Physics nowadays. It wasn't always that way, of course. Once I too suffered from the handlebar-as-caste-mark syndrome. My own caste was the aforementioned café crowd, and for years I fiddled with endless variations on Thruxtons, Clubmans and clip-ons, trying to see if there was a way to reconcile the conflicting cries of fashion and my spine. Naturally there wasn't then, just like there isn't now.

Well, I can tell you that the demands of testing all manner of fashion-built motorcycles daily remind the intrepid tester of the dictates of his own body. When we test a bike and say, *The bar is silly*, you can take that to mean that every member of the staff got numbutt, sore-arm, frozen-wrist, hip-agony or backache in the course of the test. If this is a less than tolerant viewpoint, chalk it up to the effect of confronting the stupidity that results when stylists act as arbiters of ergonomics.

When we first laid eyes, staffwise, on the Yamaha XS Eleven Special, naturally most of the said staff's eyeballs were snagged by the enormous, swooping handlebar. It dominated the bike, as perhaps the stylists had intended. After all, if you squint hard, cover up the handlebar with your hand while you try to figure out what the bike really looks like, you'll discover that underneath that Wild One sloucher lies a clean, simple motorcycle. In many ways, far prettier, far more "pure" than the box-kite standard XS Eleven.

It was during one of those squint-and-see sessions that I decided it was time to jack up one of the new-wave specials, slide a Father Physics-derived handlebar into the clamps, and see what was really what with the bike. I mean, after a grueling 15 years of struggling to get racing bikes and street bikes to work right in spite of their styling, I felt I had some experience in the matter, at least in knowing what the theory was. So with Paul Dean and David Dewhurst to help, we rummaged the vast parts bin that is *Cycle Guide*'s shop and came up with a new handlebar with which to test our theory. Chrome bits that would call our bluff.

At first it was a Suzuki GS400 handlebar, which was too short and too narrow. It went back into the parts bin after some riding, some arithmetic, some measuring and some cursing. (A shop is a shop, right?)

Then Larry Works dug out a Suzuki GS850 bar that we bolted into place. Typical of the Suzuki tiller-style handlebars, it has almost no drop, and no pullback; and since the XS Eleven has a long reach from steering-head to seat, we were dubious. But science marched on. Minutes later, we rode the Father Physics Special into the sun.

Magic. Nirvana. Transformation. I rode the Eleven back home immediately, marveling at the way it worked. No more aching back, wrists or hips. Of course, no doubt the stylists' intended effect was spoiled; not a single driver on the freeway cringed in fear as I passed, not a single Highway Patrolman eyed me warily, wondering if I were packing a length of Diamond National chain or a short-barreled .357 with which to rob the Happy Liquor store down the block. All that happened was that the thing worked. We were right, you see; underneath that sprawling bar, a regular motorcycle *did* lie.

I proved it the next day. Five runs up and down Café Road, a series of brutal tire-smoking panic stops on the unopened housing development's deserted back streets, a long, long cruise through the jam-packed Chevys and Rabbits of the frazzled housewives battling it out on Franchise Row. Home after a lot more hours than I'd ever been able to put together before, unpained, on that very same Macho Maroon Special.

What's that? Everybody knows handlebars are individual matters? Sure. And everybody knows smoking causes cancer, mate. But nobody listens. The proof is down at your local bike store. Ride up on your Special, ask the guy what kind of bar he'd suggest. Odds are he'll try to figure out if you know that Father Physics even exists. If he thinks you don't, he'll probably try to sell you that old dusty Z-bar that Crazy Harry ordered for his chopped GT380 all those years ago, just before the narcs sent him up the river. You might be just the mark to stick that Z-bar on your own iron, if, that is, the dealer thinks you're just a guy desperate for the One True Look and not a cure for your aching back.

But don't take my word for it. Ask 10 of your moto-friends why the bars they have on their bikes are there. Most of 'em will probably just shrug and tell you it came that way, and the others . . . well judge their answers carefully. If they tell you the Z-bar on the Z-1 is there because it works better, be suspicious. Look for the roller skates in their backpacks, a sure sign they're still in the supple stage of life, when fashion, no matter how ridiculous, doesn't hurt much. And in the end, ignore all their advised changes, from clip-ons to cowhorns. Because in this, as in all matters relative to the control of your motorcycle, the body of opinion you should care most about is your own.

—*Steve Thompson*

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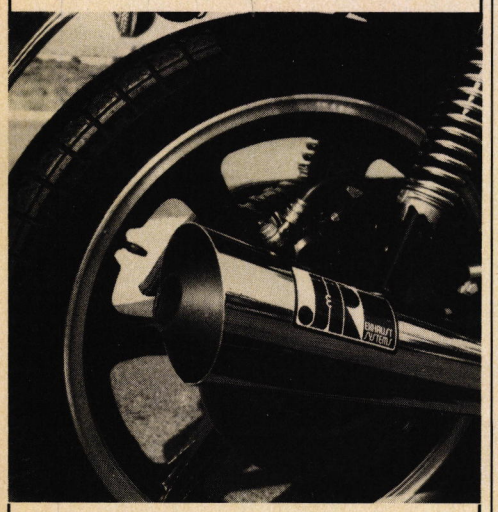

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# Techspeak

## Forks Under Pressure

*Understanding the causes of inflation*

• Every branch of motorcycling has been hit hard by inflation. Sure, prices are going through the roof, but so are the air pressures inside a lot of motorcycle forks. Nearly every bike you can buy these days has an air-spring fork, from the Kawasaki KZ550 LTD to the Yamaha YZ125G. But even though street cruisers and motocross bikes alike are fitted with this feature, a different reason lies behind both applications. And once you understand what an air-spring fork does, you can get a better grasp of how this suspension strategy relates to the function of such different kinds of motorcycles.

Aside from the installation of an air valve in the fork cap, there's not much to distinguish an air-spring fork from a conventional one. Fork oil and a coil spring are the primary suspension media. But air resists compression, too, just like a spring. And because air pressure doubles every time its volume is reduced by 50 percent, it delivers a rising-rate springing effect rather than a coil spring's linear rate. The combination of coil spring and air produces a rising wheel rate, which makes the fork progressively harder to compress toward the end of the suspension stroke. That's why an air-spring fork is said to give a progressive spring rate.

Air first found its way into fork tubes in large quantities in the early Seventies as the long-travel suspension revolution in motocross began. It was supposed to give a broad range of adjustment so a fork could accommodate every terrain and skill level. Yamaha even went so far as to build a fork for motocross that depended solely upon air for springing for just this reason. The deletion of the coil springs required a very high static air pressure just to support the front end of the motorcycle, however, which meant that the rising rate was so pronounced that the final inches of travel were so stiff as to be virtually useless.

The problems with the initial application of air to motocross forks didn't end there, either. The demands of motocross meant that the temperature inside a bike's fork tubes increased substantially, which in turn increased air pressure, making the fork even stiffer at the end of a moto than at the beginning. Lowering static air pressure in compensation only made the suspension too soft at the beginning of the moto.

These problems eventually led to the reinstallation of coil springs in motocross forks. At the same time, the engineers realized that the suspension requirements of different tracks and riders weren't very different. So most modern motocross bikes are built with a progressive-wound coil spring. Substantial changes in spring rate are handled by changing springs, not air pressure. Air now is just a fine-tuning device, changing the progressiveness of the spring rate in a small way to suit rider preference.

Since air is no longer required to support the entire weight of the motocross bike, air pressure inside the fork tubes is fairly low, which also minimizes the effects of the pressure increase as the fork heats up in action. In fact, many bikes specify zero air pressure in their forks to keep suspension characteristics consistant throughout a moto. Air is added only to alter the final spring rate as the fork nears full compression.

But as motocross bikes have begun to deemphasize air in the forks, street bikes have begun to emphasize it. That's because street bikes must adjust to a far broader range of riding conditions than motocross bikes must contend with.

For example, when your stock bike meets racer road, the addition of a little air in your fork will stiffen the wheel rate at the end of suspension travel, helping your bike fight off the wallow produced by your soft stock suspension. Touring bikes also need more spring control to cope with the increased weight of fairing, bags and passenger. Adding a little air to the fork does the job—but the beauty of the system is the fact that the suppleness of the first few inches of suspension travel remains unaffected, while a more progressive rate keeps the suspension from bottoming. The air-spring fork can work in reverse, too. By reducing the air pressure from the stock setting, you can give your bike a plush ride for boulevard cruising, since cornering clearance and load capacity mean little in this situation.

As it turns out, the addition of air pressure to fork legs did help bike engineers build front suspensions that could adapt to a wide variety of terrain and riding conditions. But this advantage proved to be more important for street bikes than dirt bikes. So street bike forks carry a lot of air pressure for a wide range of available fine-tuning, while motocross bikes carry almost no air pressure. It goes to show that learning how to use new technology is as important as simply creating it. —*David Dewhurst*

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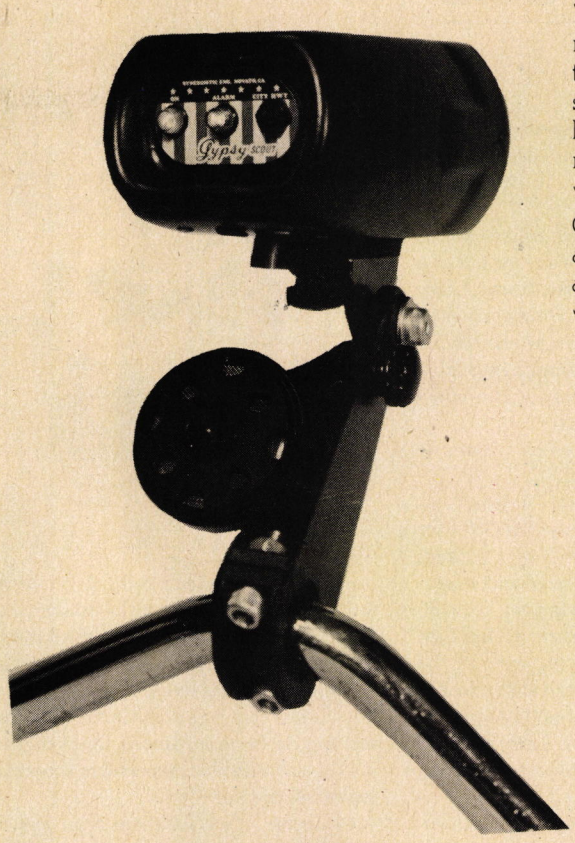

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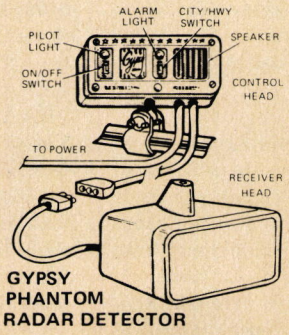


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# West's Side

## Man Buys Bike

*Millions cheer*

• Early the other morning the motorcycling world was shaken to its core—did you feel the jolt?

No, neither did I.

But we were supposed to, believe me. It all began when the phone woke me out of a hazy midmorning daydream. It was Larry Lorini, a friend of mine who races cars. And he said . . . pant, pant . . . that he was buying . . . pant, pant, pant . . . a brand-new Suzuki GS11 and . . . huff, puff, pant . . . "would I like to *do* something about it?"

Do something? I said. Hell no, it was *fine* with me if he bought a bike.

No, no, no, no, Larry said—I didn't understand. He was going to use his GS11 for transportation around New York City and, he being a berserko car racer and everything, wouldn't I like to do a *story* about it.

Maybe I was just still waking up, but I sat there, the phone stuck in my ear like the proverbial banana, and stared at the floor in confusion. Hard as I tried—and believe me, I tried pretty hard, because Larry's a good guy—I just couldn't get what he was saying to make any sense. It was as if he'd called up and said, hey, got a great idea—we get people to give us their spare money, we pay them to leave it with us, then we invest it and make a profit for ourselves! And I didn't want to have to be the one to tell him somebody'd already thought of it . . . and called it a "bank."

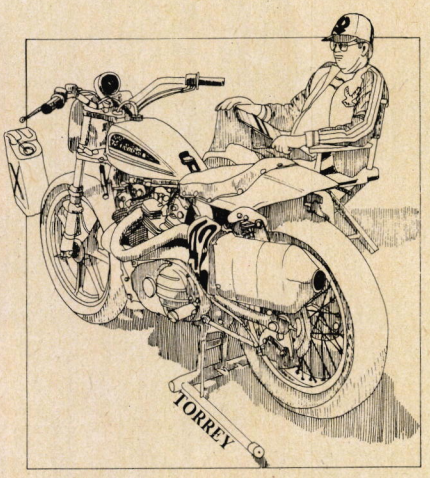
But Larry was convinced that buying a bike and riding it around New York City—especially since he was a berserko car racer—was front-page stuff.

Sound familiar? It should. These days the world is creaking with car people who, one by one, are rediscovering the wheel. And more power to them. The Fuel Crisis (by now it's earned capital letters) just won't go away and car people are starting to find it more and more painful to stop in for a fill-up. And their cars are getting slower and duller and more homogenous with each passing day—and in New York, at least, parking them is getting harder and more expensive to boot.

Then suddenly, like a lightning bolt direct from the Red-Hot Center of All Inspiration, it strikes them. A *motorcycle!* Jeeze Crice! Stop the presses, hold the front page—I'm gonna buy a motorcycle!

Uh-huh. A giant leap for a man, one small step for Mankind.

And yet, as I sat there with the phone stuck in my ear, I could understand it. Okay, Larry didn't understand that the motorcycling world wasn't going to be thrown to its knees the day he picks up his GS11. But *sure* he was excited—who wouldn't be!




What is more, it's not what he thought about what he was doing that's important, but the fact that he's *doing* it. He's buying a motorcycle because, among other reasons, it's the only sensible response to this cul de sac called the Fuel Crisis.

Of course, it's a lot more than just the Fuel Crisis, too. It's money that gets more like cigarette papers every day. It's a society that has bet everything on individual transportation, only to find that the 3500-pound, V-8 powered, split-level tract houses that formed the basis of that individual transportation system produce such horrendous environmental consequences that the air we're breathing would've passed, in any half-assed 19th Century war, for poison gas. And it's the faith-healers in Washington who pass legislation which, while reducing pollutants, causes these same 3500-pound mobile tract houses to be even *less* efficient, making the Fuel Crisis worse still. (While also, incidentally, making them so slow and unresponsive that their one saving grace—fun—is about gone now, too.)

The word being screeched at the top of everyone's legislative lungs these days is Efficiency. Starting right now, cars have to become more *efficient*, gawdammit! By which is meant, *fuel*-efficient.

Fine.

How about *space*-efficient? Is there some Divine Writ that proclaims one person must take up 96 square feet of space, the shade area of a "down-sized" 1980 Pontiac Grand-Am, while he gets from here to there? (And don't give me any crud about "car-pooling"—one look at rush hour right-seat occupancy shoots that myth down in a cloud of Nitrous Oxide.) Then once our brave automotive commuter gets "there" in his great four-wheel rotunda, it goes on taking up 96 square feet of shade area right up until quitting time, when the whole bloated mess moves homeward again.

But no, there is no such Divine Writ. And you prove it every time you park your bike and appropriate, at the most, 14 square feet of shade.

This kind of argumentation is all just too grim, though, too joyless to think about more than a minute in a row, isn't it? Yes, it's painfully clear that bikes are more fuel-efficient and space-efficient than automobiles. And yes, the world is gradually coming to appreciate it. But anyone who bought a Merkel Light or a curved-dash Oldsmobile in 1903 because he seriously believed they were more practical or dependable than a horse was blowing smoke up his chimney. We didn't get hooked on motorized vehicles in this country because they were practical or efficient but because they were *fun.* Exciting. Spectacular. They became a practical necessity only decades later.

Well, I propose that—unlike cars—the most convincing reason bikes make sense in these grim and joyless days is exactly the same as it was back in 1903. Bikes make sense not because they are space-efficient or fuel-efficient, but because they are *fun*-efficient. They are still something to be *glad* about. Imagine! People behaving in a practical and efficient way, and actually enjoying it! Sounds illegal.

But it's happening. And this morning phone-call from Larry Lorini, berserko car racer, was only more proof of it. One by one, people who for years have been tying their identity to their cars are, by necessity, turning to bikes. And no matter how they approach it, whether as grudging necessity or front-page news, they're going to end up glad about it. Wait and see. After all, how long's it been since you heard of someone getting off a bike after his first ride and saying that it was boring? Even the most skeptical, the most timid, end up smiling eardrum to eardrum. Pure fun-efficiency.

But if they phone you up and ask if you'd "like to *do* something about it," don't sit there confused like I did with Larry. Just nod your head and say, yeah. Tell 'em the front page has already gone to press, but maybe they'd like to just go for a nice long ride this afternoon instead. Sure they would. Such a nice day for it—*always* is. . . .

*—Ted West*

# Letters

*Strangely threatened,*
*After the shine's gone,*
*A small ray of hope*

### IT'S NOT PARANOIA IF THEY'RE REALLY AFTER YOU

Please tell me if other cyclists are having my problem. I am new to riding a motorcycle, having finally picked up my GS1100 after a three-month wait. So far, the bike has been deliberately backed into and flipped over. While riding, I've been pushed out of my lane twice, once on the freeway and once on the street. I know that it wasn't by accident, since they came over from the other lane, eyeballing me all the way.

I'm not a speed freak. My only previous riding experience was 600 miles on a Honda Hawk, so you know that I am very careful about how I ride my new Suzuki.

Do other bikers have similar experiences? Are motorcyclists really that hated out there in Automobile Land? Or is it just me?

David Kumagai
San Gabriel, California

*Even giving the benefit of the doubt to drivers who don't look, it's not just you—ed.*

### MISSING POINT

Hey, you nuts, don't you ever consider anything other than just raw speed and power? I just subscribed, and maybe I see the light as to why the Harley people are so pro-Harley.

I figure that the day I have to depend on speed, maneuverability and raw riding talent to stay alive, I'd better just check it in because I won't be around too long. And that, my friends, is all I get out of your June issue: speed, power and maneuverability.

My '77 Bonneville is no dog; it'll raise its front wheel off of the ground—but for what? And it's slow by your standards. I found that out while learning some of its capabilities. I also drive an 18-wheeler diesel and there's a lot of power in it, too, but just the opposite from a motorcycle. Still, both have one thing in common: It is common sense, attitude and defensive driving that keep the operators of both vehicles alive. Hope you catch the point.

Ivan Worley
St. Joseph, Missouri

*Here's hoping that you don't "check it in" before you discover that maneuverability and speed figure into the safety equation—ed.*

### A POINT FOUND

It doesn't happen too often, but every once in a while I'll read an article and afterwards say to myself, "That's exactly how I feel!" Such was the case after reading Ted West's bit "To Ant Honda, With Love" in the June issue.

I think that anyone who first got interested in bikes because of what they are—a real experience in feeling good—and now finds himself wearing Brand-X patches all over to match his Brand-X machine is losing out to himself. If *what* you ride is more important than *why* you ride, what do you have? Mostly just pride in a particular object of ownership, which is one thing; but enjoying motorcycling is quite another.

Ted West's article was refreshing, to say the least. It's actually a guide to getting more enjoyment out of one's two wheels. For those who use motorcycles as a way to express their masculinity, I wish they'd convert to bulldozer operators or lumberjacks and leave biking to the bikers.

Mike Campagna
Buffalo, New York

### STRANGE THREATS

The reply to a previously printed letter of mine in this column seems typical of the type of response of some enthusiasts who always seem strangely threatened by the presence of Harley-Davidson motorcycles and who can't restrain themselves from yelping about the absolute superiority of Japanese machines whenever someone mentions H-D.

This response would seem unnecessary in light of the fact that everyone (including myself) has long been aware that there are many bikes that are faster, less expensive and more complex. The point I was trying to make was this: I don't care. I simply have my own personal ideas of what a motorcycle is, and I feel that the bikes that fit that idea are very good machines in their own right. I question the motives of people who compulsively beat dead dogs. What are they afraid of? I did enjoy your Highway 61 article very much.

On another subject, one thing that's always bothered me in road test articles is the constant whining about "excessive vibration." I feel that's partly responsible for such absurdities as 400cc motorcycles with 30 pounds of counterbalancing shafts hung on them.

J.A. Stege
Vallejo, California

### THE FLIP SIDE

I'm writing in reference to the abused Harley rider in the June issue who was buzzed by a so-called "riceburner"—in this case a Honda 750 on the expressway.

First off, I resent my '78 XS1100 being referred to as a riceburner. Second, I resent the term "Jap," being half Japanese and having lived in Japan for 12 years. I laughed at the weak attempt at sarcasm in the letter, when it commended the "Japs" for producing a bike that is reliable and can be had for a good price. At least the author quoted facts, especially the part about being reliable. If this guy would do more than just look at the pictures and turn to the specs pages, he would find that these "riceburners" are more than just reliable and reasonably priced.

I admit that Harley's sleek styling is attrac-

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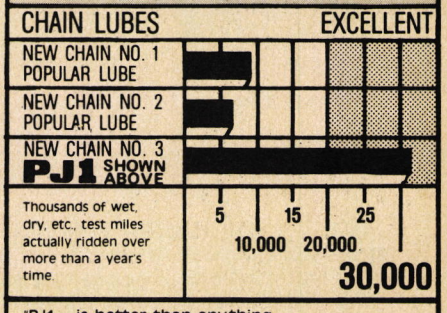


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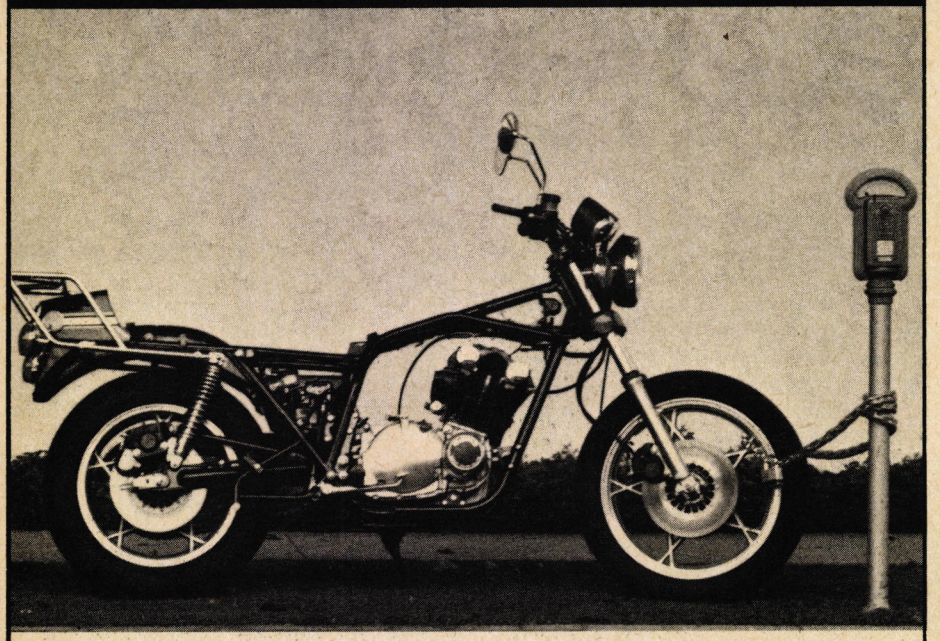

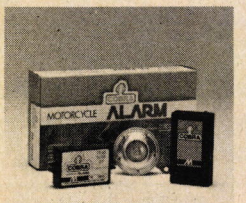


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tive—I almost bought a Sportster myself some years ago. But looks aren't everything. If all I wanted was to burn up the quarter-mile I would have purchased a Z1-R TC, but my Eleven does the quarter-mile and many other things fairly well, so I'm happy with my "riceburner."

Eighty years and Harley is still doing the same old thing. Maybe the reason Harley hasn't produced a "pavement burner" or anything new or innovative is because they're afraid they might have the same overwhelming success that they had with their enduro models. When they do, though, I seriously doubt that the riceburner jockeys are just going to "move over." The only bike with Harley on the tank that I would ever consider laying out good cash for would be the Highway 61 from your November issue. Maybe Harley should take some lessons from the nuts at *Cycle Guide.*

As far as identity problems go, it seems that the Harley riders I pass on the streets are either afraid to let go of the bars or are too busy maintaining their image. I keep trying, though. On many occasions I've been provoked at lights by Harley riders who smirk at my Eleven. If only they could see the ear-to-ear grin inside this "half-Jap riceburner jockey's" Bell Star when the light turned green and my tach saw red.

F.M. Del Rio
England AFB, Louisiana

### NOTES FROM THE REMAINDERED TABLE

All right, Patricia Zonker; you think that you can use motorcycles as a subject to make money on your book. We all know that motorcycles are considered dangerous by most people because most people know nothing about them. And what do you care about the people who ride motorcycles so that you can drive your car? Why did you pick on motorcycles? Just living in this world is dangerous enough. You could have better spent your time writing a book on how to make motorcycles and riding safer. Carelessness kills, not motorcycles. You also convinced me that the authors of books aren't necessarily intelligent.

If Zonker can print her book, you can print this letter.

Allan Fredrickson
Rochester, Michigan

*Done—ed.*

### A SUBTLE TWIST

The thing that bothers me most about motorcycling is the lack of response by most of the factories to the needs of the riding public. Why is it that most cars come from the factory equipped with a cruise control while bikes must get by with some aftermarket throttle lock? Don't the factory people know how tiring it is to hold open three or four carbs for even one hour? Most of the people I know install a throttle lock for lack of a better way.

I think an electronic throttle control should be offered by the factories. I got tired of waiting around for some firm to offer one, so I ordered a unit from Sears that was designed for a front-wheel-drive car. A few hours working out the

details in my garage resulted in a cruise control for my XS750SE. All of the brackets are painted, and the whole thing looks OEM. I tested it this morning. I'm happy to say that everything works. It has resume, coast and accelerate modes, and it turns off when I touch the rear brake or switch it off manually. I would be happy to send more information if anyone is interested. I can't wait for better weather.

Leon Clinton
Sesser, Illinois

### QUARTZ BEAM AT THE END OF THE TUNNEL

Your February article on the Honda CB900F really should hit the Honda factory dead center. I am the proud owner of a 900F, and whether I'm twisting through the mountains or cruising at two clicks on the Autobahn, my 900 does everything perfectly and precisely.

This factory-custom craze that appears to be taking over the hearts and minds of bikers in North America really has got the Europeans bewildered. Me, too. Honda has the basis for the best sport bike to date, yet the concept is mangled before it reaches dealers in the U.S. and Canada. To all of you people who are going to have to wait for Honda to wake up, the wait will be worth it.

Rob Walker
CAF Base, Lahr, Germany

### STYLING FOR DOLLARS

Another Special, the Maxim I 650. I don't know whether to laugh or to cry. A benchmark engine, light weight, superbike performance—with only one catch: It's only available in the U.S. in the Looney-Tunes version. Same story with the CB900. But we can't blame the Big Four, after all. They're only giving us what we want.

This "Special" period reminds me of the love affair that designers and consumers had with the rocketship styling era of American cars, which finally burned out with the hilarious/repulsive rear end and taillight treatment of the '59 Chevrolet. Then the Sixties came, and nonfunctional jet nozzles and fins fizzled out of fashion. Those same cars that looked downright exciting in the late Fifties looked silly and ugly by the mid-Sixties.

Historical examples are endless, and the lesson to be learned will never change, whether applied to architecture or automobile design: Given enough time, when function is challenged by fashion, function *always* comes back as a styling preference. The American motorcycle buyer will just as surely come back to functional fuel tanks, handlebars and seats as a styling preference.

Years from now when we're cleaning out our attics, we will find an old motorcycle magazine with beautifully photographed color advertisements for "Specials." Gee, they did look exciting back then. We will be amused and relieved that these quaint motorcycles are not made anymore and that no one wants them anymore. The bikes made to look kinda chopper-like will rest with the cars made to look kinda rocket-like. They both were "custom" and we loved them, but boy-oh-boy they sure look dumb now.

Meanwhile, my only regret in living through this interesting historic period in motorcycling is that the Europeans can buy Europe-only motorcycles that we can only read about. And, dammit, they look like some of the nicest motorcycles ever built.

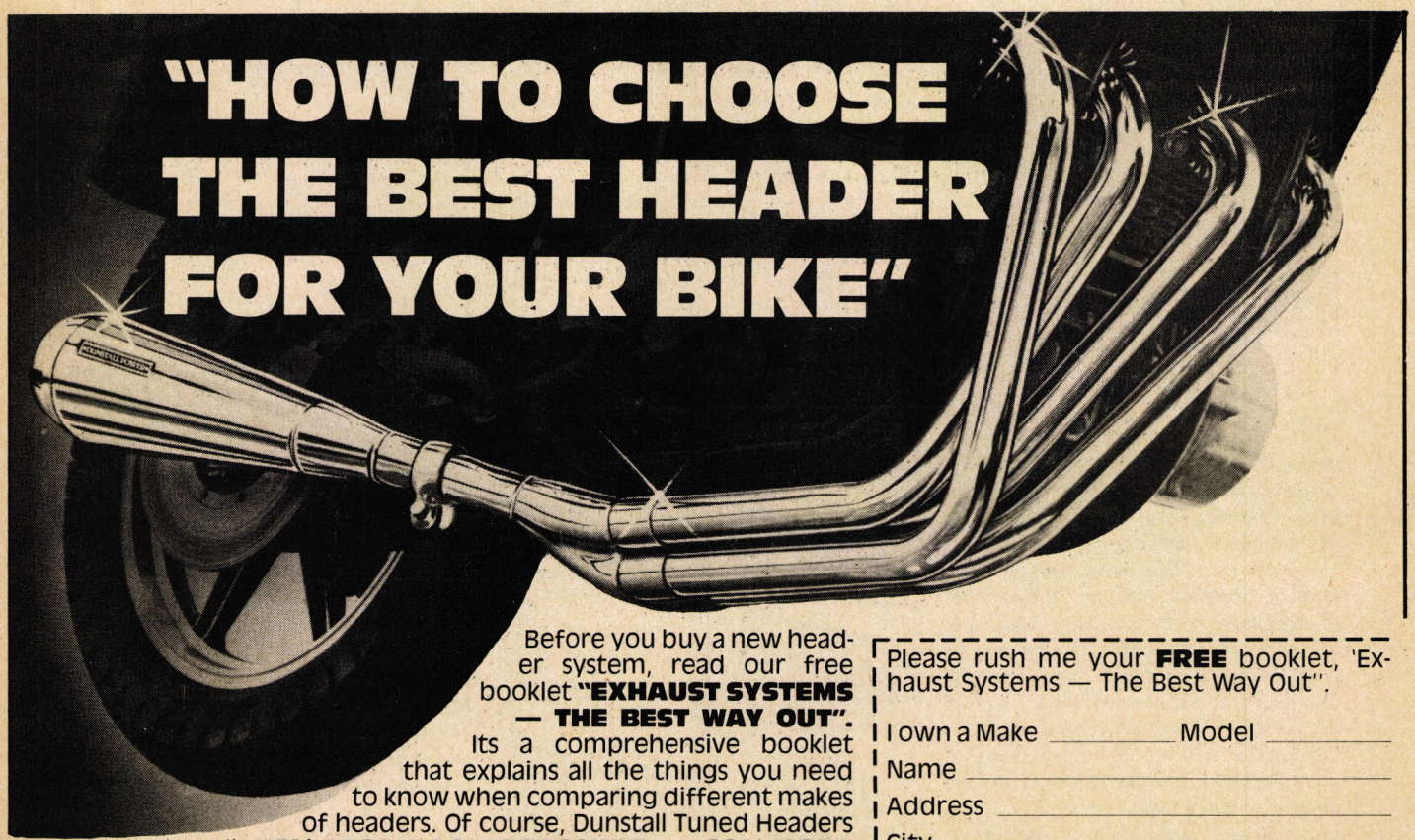
Bruce Beauchamp
Vancouver, Washington

### THEN WHAT HAPPENS?

I was just wondering what you did with all the bikes you test. If you don't sell them when you're through, how about giving me one? Please? An RM125, YZ125 or an XL185 would be nice. I don't have enough money to buy one, so this is my only chance. I might be able to pay for the shipping.

Tom Russell
Sparta, New Jersey

*Sorry, Tom. When we're through testing a bike, we just leave it outside the garage. They don't seem to stack up out there—ed.* ●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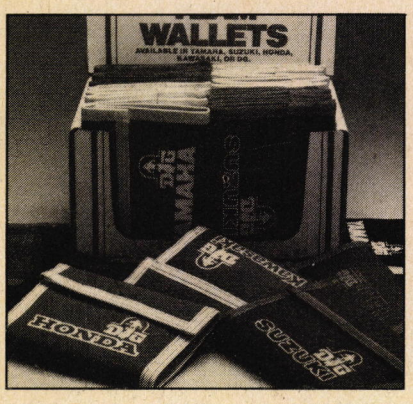
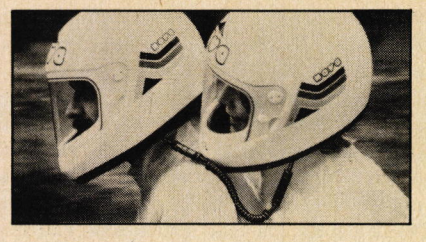
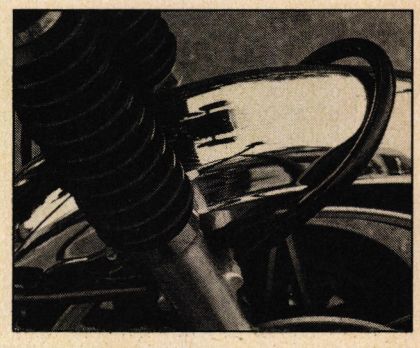
**Wallets WFO:** If you've always wanted a wallet color-coordinated to your motorcycle's team colors, DG Sports has them now. The team wallets are made of nylon with Velcro closures; a card holder is included. Lightening your clout by $8.50 can get one of these money bags in team colors for Honda, Yamaha, Suzuki, Kawasaki and Team DG. You'll find them at motorcycle dealerships, or you can contact DG at 1170 Van Horne Road, Dept. CG, Anaheim, California 92806. Or call (714) 630-5471.



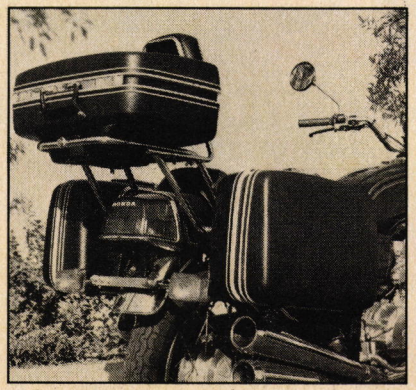
**For Back-Seat Riders:** Talking to that person behind you can be difficult, especially when you're both wearing helmets. But the folks at Nava might have a solution with the Interfone intercom system. It's claimed to open channels of communication between two riders through plastic-transducer speakers in each rider's helmet. The Interfone is made to fit Nava's Integral Nava2 helmets by replacing the stock padding with the Interfone kit. The system is pre-assembled with speakers and microphones for two helmets; plug-in jacks and a coiled cord are included. Two AA batteries power this intercom system, which is designed to allow hands-free operation. You'll find the Interfone by communicating with dealers in your area.

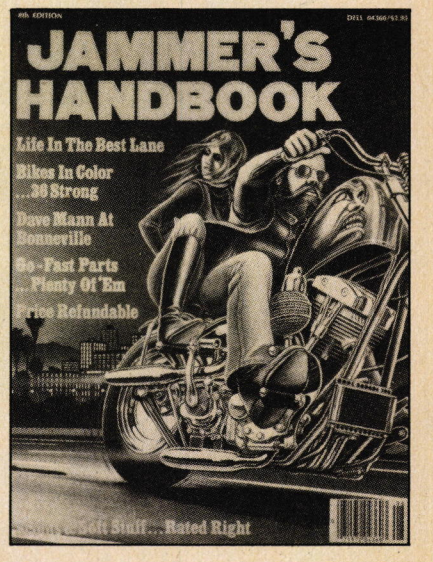
**Brace Yourself:** For Kawasaki riders looking to improve the handling stability of their bikes, the folks at the Ultimate Source suggest the Kawasaki Fork Brace. The extra strength provided by this brace is claimed to eliminate flex in the front end and to keep the lower sliders in alignment with the front fork assembly. The brace can be used on any late-model Kawasaki, 650cc or larger, except the Z1-R. For further information contact the Ultimate Source at 1888 West San Carlos Street, Dept. CG, San Jose, California 95128. If the post is too slow, you can call (408) 295-0207.



**Time Keeper, Dollar Saver:** Keeping track of time and money means a lot to some people. If you're one of them, ponder the Econosplit timer from Cronus. It's a stopwatch with single-event, time-out, split and one-two-finish functions, plus a time-of-day chronograph with month, date and day-of-week indications. The Econosplit features a neck rope that rolls up into its case and two-piece construction to allow the timer to be handheld or wrist-mounted. Battery life for this time keeper is claimed to be more than one year. Retail price of the Econosplit is approximately $30.00; a warranty is included. For more details contact Cronus Precision Products, Inc., 2895 Northwestern Parkway, Dept. CG, Santa Clara, California 95051. To save time, call Cronus at (408) 988-2500.

**Markland For Samsonite:** Markland Industries is marketing luggage-mounting frames in conjunction with Samsonite Tribar Luggage. The frames are available for most popular bikes and can be mounted with the stock exhaust pipes in place. A two-bag mounting frame, plus mounting hardware, sells for $340.00 (Samsonite bags included); the three-bag edition costs $420.00. An optional backrest is available from Samsonite for an additional $45.00. The Markland people make these frames from chrome-plated heavy-gauge steel with wrap-around heliarc welds at all junctions. For more information contact your dealer or Markland Industries directly at 1501 East McFadden Avenue, Dept. CG, Santa Ana, California 92705. You can call Markland at (714) 541-2681.

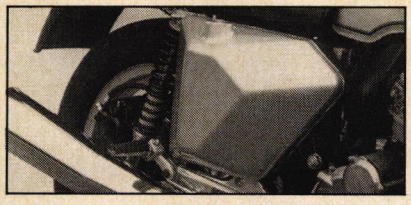


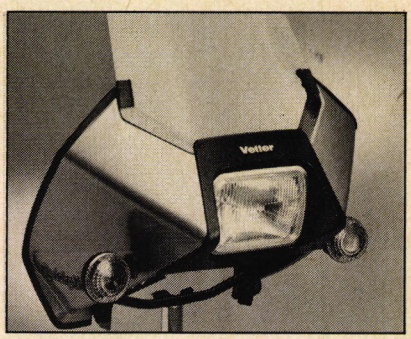



**Jammer Handbook:** If the recession hasn't stripped you of your last dollar you'll find plenty to spend it on in the latest catalog from Jammer Cycle Products. Jammer offers competition parts for the racing enthusiast, but the catalog also features accessories for motorcycle customizers. You can find this 160-page color catalog at most motorcycle and accessory dealers for $2.95. If the stock has run dry, send $3.95 (includes postage and handling) to Jammer Cycle Products, 801 South Main Street, Dept. CG, Burbank, California 91506.

**Cycle Sound Radio Cover:** Protecting your sound investment from dust and weather isn't always easy. To help you out, Hill Country Graphics is marketing radio covers from Cycle Sound. The cover should minimize moisture and dust damage to your radio as it sits mounted in your fairing. For tuning or station adjustments you can flip the cover out of the way. Meanwhile, smoked styrene plastic makes it possible for you to see your radio. This cover fits all Cycle Sound radios, past and present, and 500-style fixed-shaft radios; DIN nosepiece radios can be adjusted to fit. If you're an all-weather rider who enjoys year-round sound, send $4.95 to Hill Country Graphics and ask for model 1RC8. The address is P.O. Box 38, Dept. CG, Bulverde, Texas 78163. To cover up quickly, call (512) 497-3801.

**Side-Mount Fuel Tanks:** Next time the highways start to beckon, you may want to increase your cruising range. Interstate Accessories, Inc. is marketing TravelTanks, designed to increase your bike's fuel capacity. Each tank holds 1½ gallons of fuel and comes with a two-year warranty. The tanks are made of heliarc-welded aircraft aluminum and are available unfinished (ready to be painted) or in black. Many different models will accept TravelTanks in place of the stock side covers. An electric fuel pump transfers fuel to the main tank when it nears the empty mark. TravelTanks can be ordered from Interstate Accessories at 7832 Alabama Avenue, #11, Dept. CG, Canoga Park, California 91304. Or by calling (800) 423-5120.

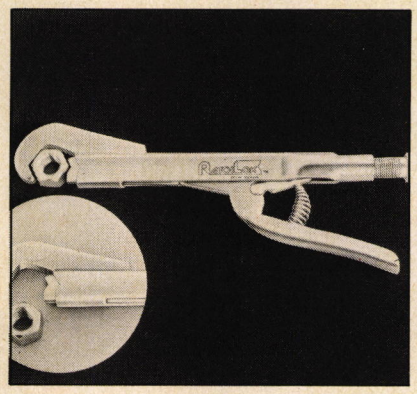





**Quicksilver Addition:** Headlight masks don't belong at costume parties, but the Vetter Corporation now carries them as additions to its Quicksilver fairing. The mask is made of pebble-grained ABS plastic with a protective outer coating. It mounts at the two windshield screws and uses two additional screws at the bottom of the fairing. Vertical headlight adjustments are possible with the mask in place. Vetter dealers carry the Headlight Mask for $19.95. Contact the Vetter Corporation at Dept. CG, Rantoul, Illinois 61866 for more information. Or call (217) 893-9300.

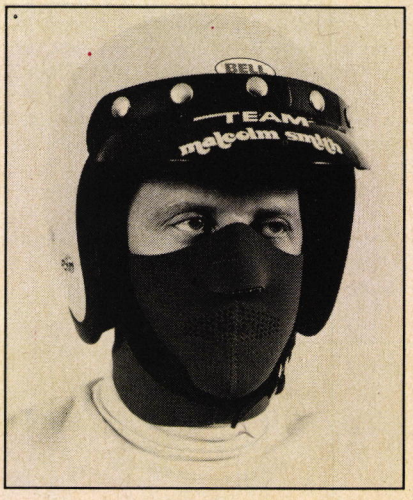
---

**A Tee For Everyone:** When you're looking for something to cover your body while you cover the road, look to Cheetah Creations for T-shirt designs by Gary McAllister. The company claims to use top-quality shirts for its three designs: Long Distance Calling, Canyon Cat and Iron Man. To order, send $7.00 to Cheetah Creations at 4827 Top Circle, Dept. CG, Simi Valley, California 93063. Indicate two color choices (a wide variety of colors is available), size (Small through Large) and design choice.



**Ratchlok Tool:** Simplifying your life isn't always easy. Simplifying your tool chest can be as simple as purchasing a Ratchlok from the Summit Tool Company. First, this combination tool is adjustable like a crescent wrench, fitting nuts and bolts from ⅜ inch to 1⅛ inches in standard and metric calibration. Second, a ratchet action on the tool allows it to be used like a set of sockets on fittings of ⅜ inch to one inch. Finally, the tool's locking feature lets the Ratchlok function like locking pliers. It is made of case-hardened, tempered carbon steel with a zinc-plate finish for corrosion protection. The tool is 10½ inches long and weighs 21 ounces. You can order your Ratchlok by sending $19.95 to the Summit Tool Company at 4150 Fox Street, Dept. CG, Denver, Colorado 80216. Or call (303) 832-5753.

**Malcolm Smith's Masque:** A face mask made from wetsuit material may not be your idea of beauty, but it's Malcolm Smith's idea of protection. The Masque is contoured to fit your face, mouth and nose and is claimed to provide maximum warmth and comfort. Velcro fasteners help make the mask easy to put on and take off, and in addition, it's reversible to give two color choices. Retail price of The Masque is $9.95; you can get it at a Malcolm Smith dealer or by writing Malcolm Smith at 7563 Indiana, Dept. CG, Riverside, California 92504. Call Malcolm Smith at (714) 686-1006.



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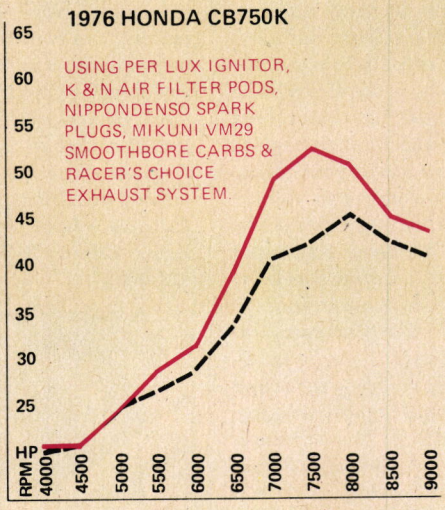
## FROM TEAM PERFORMANCE

# SUPERBIKE TUNING MANUAL

## WHAT IS IT?

The TEAM PERFORMANCE SUPERBIKE TUNING MANUAL contains up to date product testing and DYNO reports on the top Superbikes, PLUS product cataloging, information and tuning tips on the most sought after High Performance bolt-on parts and accessories that are available! Names like Mikuni Smoothbores, K & N, Dunlop, Performance Lab, "TP" Steering Head bearings, Ignitors, Racer's Choice headers and Superbike Bars to name a few. The knowledge and information contained in the manual will serve as a universal guideline irrespective of what motorcycle or whose aftermarket products you may choose.

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| 6000 | 28.6 | 30.2 |
| 6500 | 33.9 | 39.9 |
| 7000 | 41.0 | 49.6 |
| 7500 | 43.2 | 52.9 |
| 8000 | 45.3 | 51.8 |
| 8500 | 43.2 | 45.3 |
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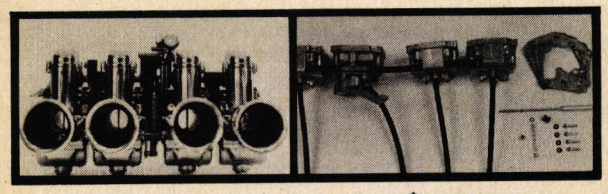

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# GUIDE LINES

*Cycle Guide's Monthly Chronicle of Scoops, Tips, Rumors and Hard Facts*

BY LARRY WORKS

## COMING SOON

• This month the news comes from the land of tortoise shell sunglasses and sun-drenched **Cinzano** umbrellas. No, not Southern California for a change, Italy. The singular roadburner pictured at the right began life as a bog-standard CB900F. But that was before *L'Automotor di Segale Luigi* lit into it. First came the engine, which was boosted to **954cc**—a change that made for a power output of 120 horsepower at 10,500 rpm.

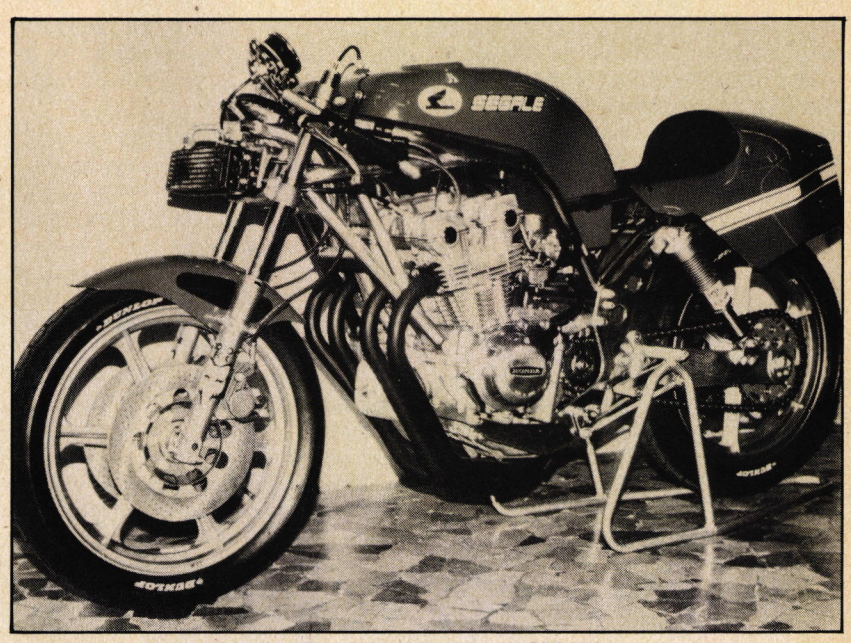
Beneath the bombastically Italian bodywork, the **Segale** Honda runs a chromoly frame with a magnesium swingarm. The wheels are also **magnesium,** cast by EPM. Brembo discs adorn those wheels, which is only to be expected, but the suspension is a bit of a shocker. Fox units are fitted front and rear. At least Marzocchi is offered as an Italian substitute. The aluminum fuel tank offers evidence of Segale's efforts to keep **weight** to a minimum, as do numerous other bits. That effort is supported at the scale, where the Segale measures in at a claimed 375 pounds.

• Another Italian offering comes by way of **Cabrera,** a new moto-marque. The **CRC 250** enduro shows its intentions with a six-speed TAU engine that's claimed to put out more than **32 horsepower.** Suspension duties are handled by Corte Cosso front and rear, with wheel travel of 10 inches and 13 inches respectively. A 1.6-gallon fuel tank and a **214-pound** dry weight round out the specifications. Cabrera may be new, but the CRC 250 isn't its only entry on the market. The firm is also making a 125cc enduro bike as well as 125cc and 250cc **motocross** machines.

• Are dull old street bikes like Suzuki's **11.43-second** GS1100ET getting you down? You hate feeling like a **slug** but you can't bear to part with the old **stone,** right? Perhaps **Vance** and **Hines** Racing can speed things up to a tolerable level. Right. What you need to get that boat anchor 11 moving is a **big-bore** kit. Complete piston kits have just been released by V&R to punch out your slow-motion stocker to 1198cc, with a choice of three different compression ratios.

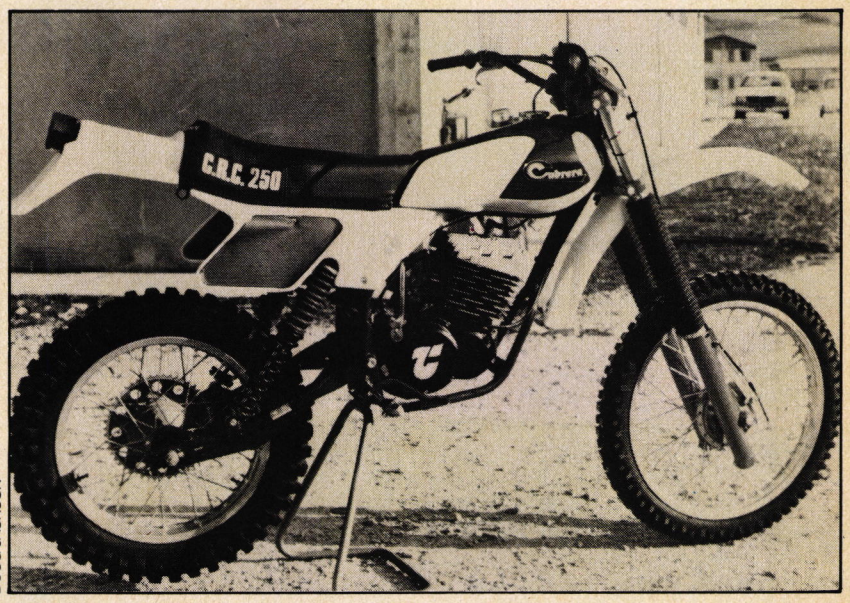
• But if you are seriously bull-goose looney for the makings of **Fast,** perhaps just punching out the **11** won't cut it. Nope, what you need to get that fine, stretched-shoulder feeling is a **turbocharger.** Blake Enterprises, Muskogee, Oklahoma has just the ticket. The Blake GS1100 turbo runs a Mikuni carburetor and is claimed to **double** the GS1100's insignificant stock **horsepower.** But then, if that's simply not enough juice, Blake has an optional water-injection system for just the right touch of extra oomph.

• Okay, it's obvious by all the yawns that the prospect of a turbocharged, big-bore GS1100 is still too slow. Enlarging the bore and making it breathe **unconventionally** just isn't enough. What you really need is to make it




**One extremely Italian Honda—Segale's rendering of a CB900F**

*When aiming for the unique, leave no bolt unturned.*




DOUG JACKSON

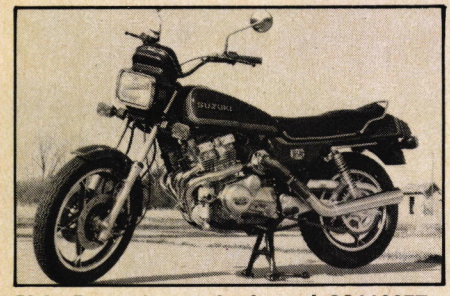
**CRC 250 enduro—ground floor of a hopeful new moto-dynasty**

*Winning the Italian Motor-Of-The-Week Competition with a TAU.*

*Continued*

**breathe** something else. Something like **nitrous.** And the kindly folks at Nitrous Oxide Systems are willing to help. A fiver sent to 2667 East 28th Street, Long Beach, California will net a booklet on the ways and means of the **go-fast gas.** And $5.95 more gets you the full packet, complete with a "Let's Cheat" t-shirt, which arrives in a plain wrapper so your neighbors won't know about your **speed addiction.**

• But maybe endurance riding is more your style. If so, then the **BFG** should be right up your lane. This new **French** touring bike is powered by a Citroen air-cooled flat four that develops about 70 horsepower at a tractable 5800 rpm, enough to propel the 580-pound tourer to a claimed top speed of 120 mph. Like the Honda Gold Wing, the BFG's fuel tank is under the seat, while a false tank up top serves as a glove box. This new French **Flyer** arrives with a full touring fairing that directs a wind blast to the engine through ducts in its lower edge, and Brembo brakes and a Paioli suspension complete the package. And that package isn't cheap. The BFG will carry a **$7000** pricetag in France.



**Blake Enterprises turbocharged GS1100ET**

*For fast relief to the OEM doldrums.*

• This talk of long-distance mounts may set your mindset to vacationthink, and here's a ride you probably haven't thought of. If **Down Under** appeals to you, contact Bushman **Tours** of Australia, North Adelaide, South Australia 5006.

• And now to keep things on an even keel, here's a tidbit for the stay-at-home set. Showing up soon on the all-seeing **cathode** ray tube will be **advertisements** for Yamaha's new SR250G. And you thought television couldn't be **Exciting.**

• One reason you might consider staying at home is the fear of **breaking down.** And while grinding to a halt will never be a cause for joy, at least you'll be **better** off breaking down now than you would have been a few months ago. That is, if you belong to Exxon's **Travel Club.** The club has recently added motorcycles to the list of vehicles covered under its **emergency** road service plan.

• Want some **professional** help deciding what bike to buy? **Yamaha** is willing to help. Its dealers have copies of a new Yamaha **booklet** entitled "How To Buy A Motorcycle." The booklet gives **tips**, describes the **advantages** of different engine types and discusses maintenance, **financing**, insurance.

• Or, for another outside reading assignment, you could turn to **AAA**. For $.35 you can pick up its 32-page **booklet** called **"Guide To Motorcycling."**

• Walk into a **Suzuki** dealership these days and you might see something you've never seen before. Nope, it's not some secret prototype, it's one of AMA's **"Rider Vote"** posters. The posters explain where and how to vote, and U.S. Suzuki will distribute them through its **dealer** network.

• In a small detour into futurethink, it's almost time for **Earls Court** again. If the information coming from Great Britain is accurate, this September's Earls Court Motorcycle Show will be even **larger** than last year's record-setting exhibition. Look for **coverage** of the event in this column.

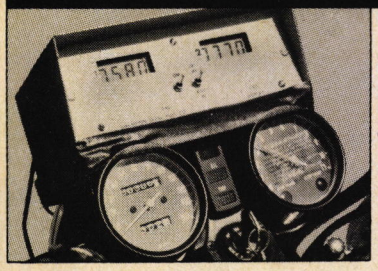
## FEDERAL CASES

• To start out on a positive note, as evidence of California's **recognition** of the motorcycle as a **desirable,** fuel-efficient transportation device, that state has recently appointed an official to coordinate a program **promoting** in-state **motorcycle** use. One of the first items on the agenda is the placement of highway warning signs targeted at motorcyclists. The signs will warn of windy areas, rain grooves and diagonal railroad crossings.

• This year the price of **gasoline** went up in South Dakota, Indiana, Kentucky, Minnesota, Nebraska, Wisconsin and Virginia, but not only

*Continued*


# Two champions test our Yamaha



The Champion spark plugs that Yamaha specifies as original equipment in four of its fantastic TZ Series road bikes, are put to the test in more ways than one. 1978-79 World Road Racing Champion Kenny Roberts and team Yamaha test our plugs out on the racetrack. And in the past few years, Kenny, Yamaha and Champion have all passed with flying colors.

We use a less spectacular but equally important method called Heat Range Verification Testing using specially designed thermocouple test plugs, and an electronic heat recording device called a pyrometer (illustrated left). This equipment allows our engineers to measure actual plug firing—tip temperatures under different speed and load conditions in actual track tests conducted at California's Ontario Motor Speedway. This data insures us that our heat range recommendations are exactly *right* for every Champion-powered Yamaha.

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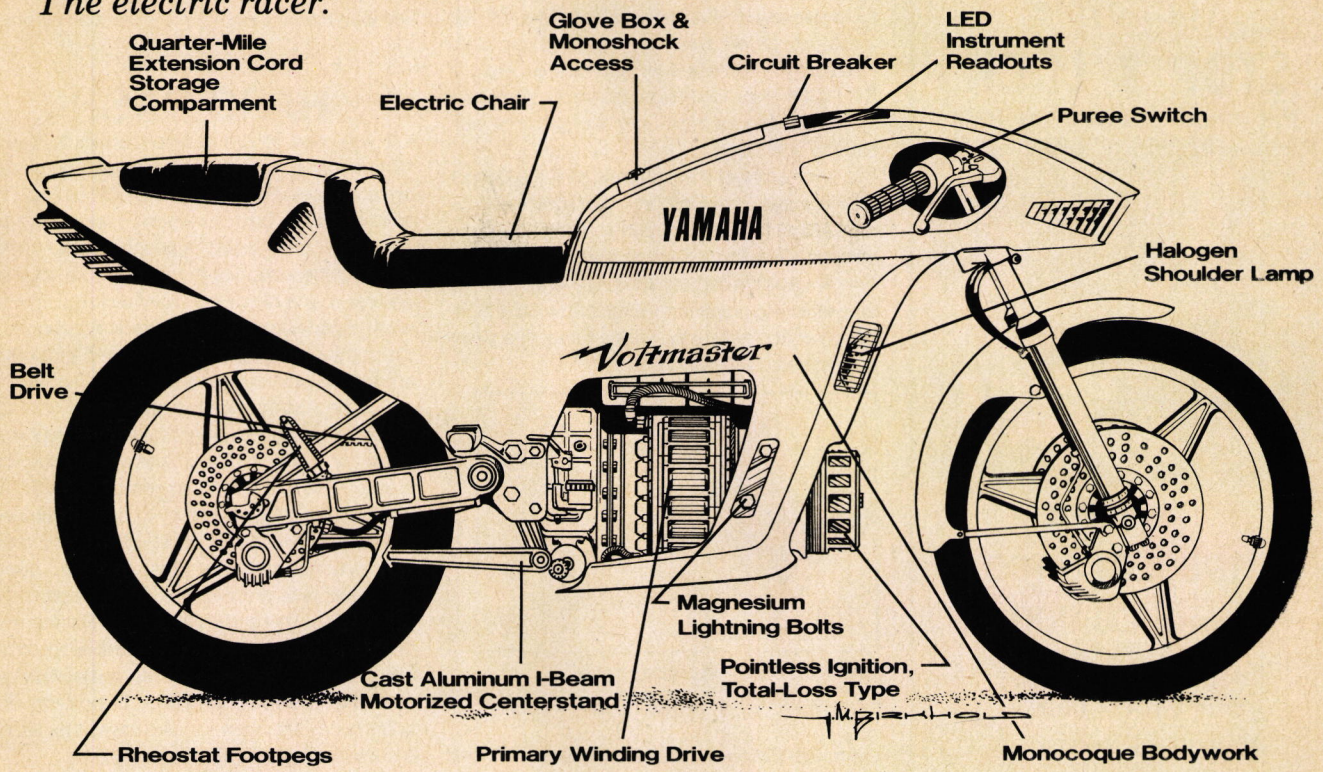
*The electric racer.*





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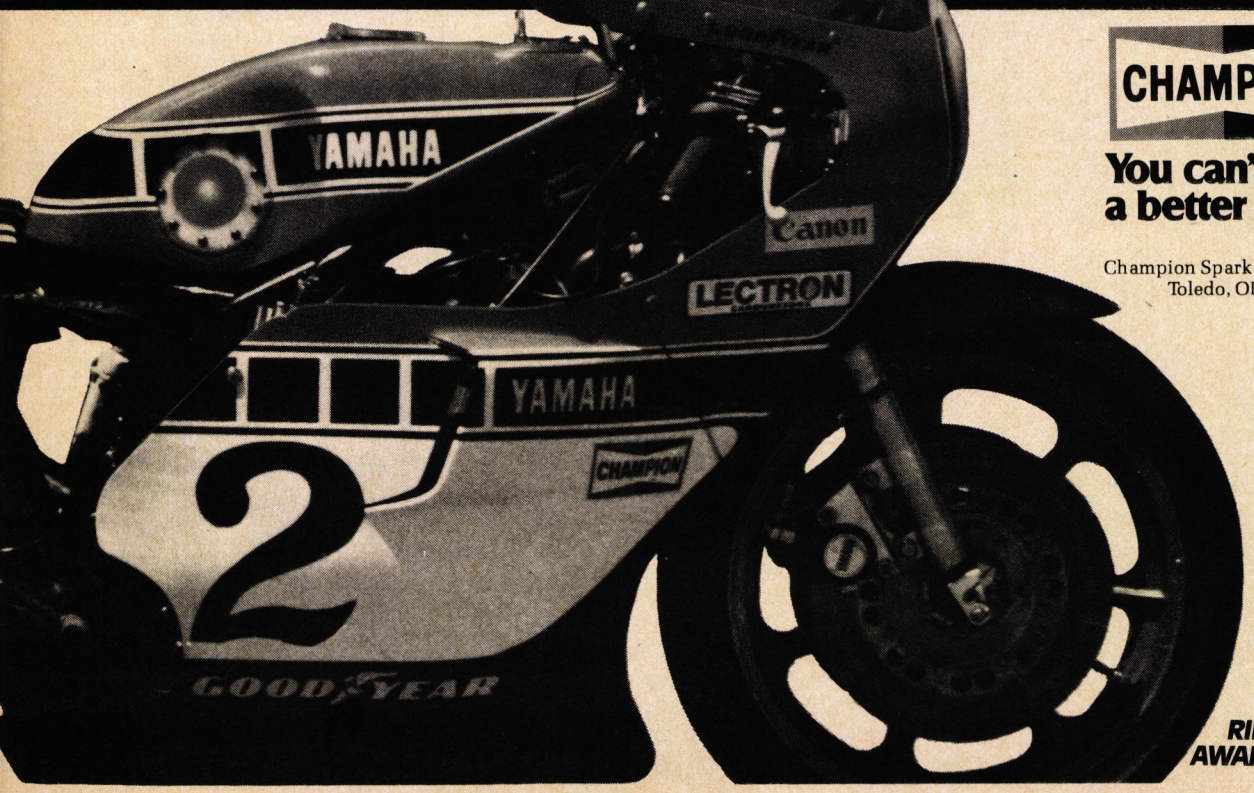


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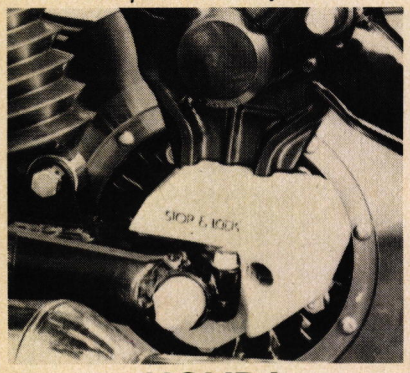

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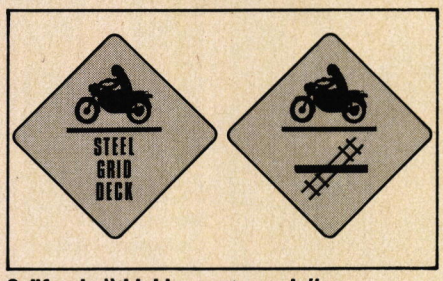
because of rising oil costs. Those states passed gas **tax increases,** reportedly not to stave off fuel shortages but to pay for **highway maintenance** programs.

• Conversely, in **California** there's a bill that would knock off some fuel tax and stimulate interest in alternate fuel sources as well. If **SB1324** clears the state assembly, it will **cut** the sales **taxes** from in-state gasohol purchases until 1984.

• In another **fuel** item, it looks as if the Corporate Average Fuel Economy that motor vehicle manufacturers are required to meet won't be stinging the auto makers as soon as expected. The **Department** of **Energy** reversed its long-standing position in favor of the **CAFE** requirements, reportedly under Executive pressure to bail out American car makers.




**California "thinking motorcycle"**

*Hopefully, signs of the times.*

• Another California bill seems to pave the way for devices like the **Q-Switch.** SB941 would allow motorcycles to run a **headlamp** that **switches** on and off at a rate of 200-280 flashes per minute, a feature that's deemed to make oncoming traffic more alert.

• And here's a fascinating tidbit that should go under Do-As-I-Say-Not-As-I-Do. Recent **figures** released by the **NHTSA** show that while 75 percent of all motorists favor the national 55 mph **speed** limit, only **43.8 obey** the double nickel.

• In an interesting twist on the **helmet** controversy, a **British** regulation that determines helmet safety standards is keeping the **Simpson** RXM-1—considered a top-of-the-line racing helmet—off of the streets because the helmet's **ridges** along its front surface don't allow it to pass muster.

• Whether or not to allow police use of traffic-control **radar** has always been a popular issue, especially so in **Florida.** And apparently equally popular is a bill in the Florida House that would ban police use of radar until and if its accuracy could be improved. The bill, HB12, recently received a strong vote in the house to keep it out of a **Transportation Committee,** where it might have died.

The bill would require that state and local police undergo a rigorous **training** program before being unleashed to use radar in catching speeders. It would also ban police use of radar by 1983 unless overall accuracy and **reliability** were drastically bettered. The bill is actively opposed by the Florida **Highway Patrol,** which now makes about 90 percent of its speeding busts through radar.

• In a related item, the Florida House passed **HB1508,** which would levy a **$100 fine** against users of **radar detectors** in that state. The bill still has to clear the state senate. The house stopped short, though, by not passing an amendment that would have allowed police **confiscation** of radar-detection devices.

## HARD CASH

• If you tried to get a **bank loan** to buy a motorcycle in the past few months you probably got a **runaround;** you're not alone. The problem dates back to when President Carter issued voluntary credit restraints a few months ago and the status of the motorcycle was left unclear. Because of the **confusion,** bankers were reportedly **denying** credit for motorcycle purchases after having decided that bikes are simply **luxury** items. A lot they know.

But the AMA got on the case. After contacting Federal Reserve Board Chairman Paul **Volcker** for a clarification of just where motorcycles fit into the grand scheme of credit restraints, the AMA decided to hit the bankers where they live. Or at least where they read. Ads emphasizing the conservative, good-credit-risk side of motorcyclists were placed in *Banking Journal* and *Independent Banker,* two popular magazines of the **financial** community. And all that well-placed **advertising** seems to have had an effect. Reportedly, the tight-money situation for bike loans has eased somewhat.

• Now, while you're trying to figure out if your budget can **support** a new bike, you'd better take this statistic into account: According to figures cited by the **NHTSA,** the "average" cost for treatment of a motorcycle **injury** as of April 1978 was $11,038, a figure that doesn't include doctors' fees.

• If you've added up your **budget** and find that there is still inexplicably something left over after that "average" get-off, maybe you'd just better **bank** it. At least if you intend to be riding in 1990. According to several widely circulated accounts, you can make book that the **price** of **gasoline** will top the $5-per-gallon mark before the turn of the century.

• That's not really as bad as it sounds, though; not if you listen to the Department of Energy. A recent **DOE** publication entitled, **"Interesting Energy Facts"** spells it all out. Included within is proof that the price of gasoline really hasn't gone up much since the Forties. Once you've identified all the economic trends and dialed-in the **inflation** factor, you find that you're really only paying **19.3** cents **per** gallon **for gas—in 1941 dollars.**

• But enough of old money and monetary maneuverings. Here's a financial tidbit explained in 1980 **currency.** Motorcycle **luggage** sales in the U.S. have hit the big time and now constitute an annual **$17 million** retail market.

• While you're primed to consider large sums, think on this some: The bottom line on **Honda's** Ohio assembly **plant**—now set up to produce CR250Rs and CBXs—totaled more than **$35 million.**

• And as long as we're talking real money, here's something to file away in your book of

# Two-Wheel Safety Clinics

## *A little help from your friends.*

• An American returning from exile would spot it immediately. The glamorous American statuscar is no longer King of the Road; its territory has been drastically subdivided. Economics and Big Oil have conspired to boost anything on two wheels in America. That's why this year's Transportation Safety Day in Van Nuys, California turned into a two-wheel safety clinic. By now, most of us are accustomed to seeing more motorcyclists on freeways and mopeds or bicycles of every description on our neighborhood streets. But the change has been quick.

Too quick, in fact, for Big Business or Big Government to have characteristically exploited, incorporated and packaged the trend in red tape. Meanwhile, riders are being sneered at, sweared at and run over by automobile drivers. Many new riders who have valid drivers' licenses and who have ridden two-wheelers off-road aren't necessarily qualified to ride safely on the street. But until the government is able to provide a system to train and license riders, they will have to fend for themselves. Unless, of course, they live in a public-minded community that chooses to promote two-wheelers.

On the first weekend in May, Van Nuys, California was such a community. Even though there are obvious differences between motorcycles, mopeds and bicycles, the three were lumped together for the Van Nuys occasion in order to focus public attention toward all two-wheeled vehicles commonly seen on the streets. This was the brainstorm of Joe Dolan, Van Nuys Department of Motor Vehicles (DMV) spokesman and local highway police officers. The Rotary Club and the Chambers of Commerce for the entire San Fernando Valley sponsored the Safety Clinic and U.S. Suzuki Motor Corporation was quick to support their efforts.

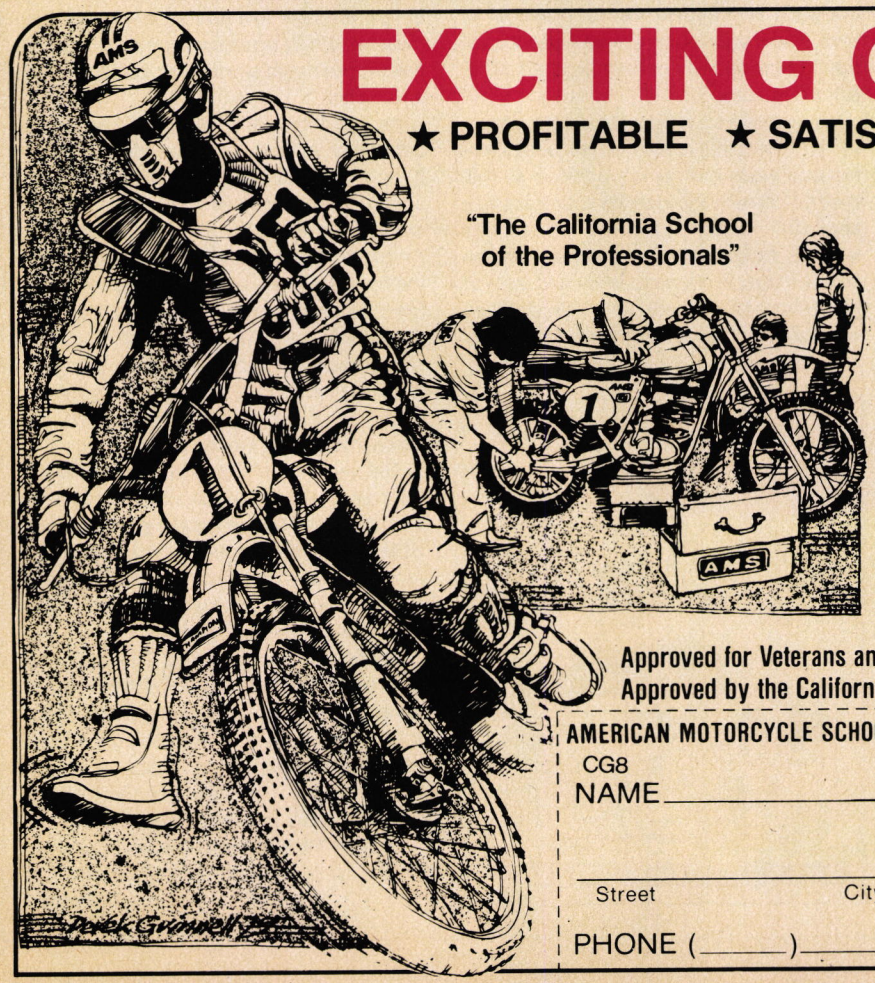
Dolan's remarks echoed Suzuki's concern for the new buyer when he said that the clinic was primarily set up to help those who had recently felt the pinch of the petrol pumps and switched to two-wheeled transportation. The clinic's experienced riders could give advice to the neophyte riders and answer their questions. Highway Patrol officers were on hand to instruct the still-wobbly rider, and new riders could also use this opportunity to obtain their licenses. There were safety films and demonstrations by stunt riders; there was even a motorcycle slow-riding competition. Suzuki and a local moped business provided one of the most valuable services by soliciting their mechanics to inspect privately owned motorcycles and mopeds and to give riders tips on maintenance.

The Two-Wheel Safety Clinic tried not only to advise new riders but to make drivers aware of two-wheelers. Many drivers still think motorcycles are for riding in the dirt or on the racetrack, bicycles are for children to ride on quiet suburban streets and mopeds are for Europeans. But two-wheelers are for-real transportation, they deserve a piece of the tarmac. The clinic's support groups—from the American Automobile Association's bicycle test to Montgomery Ward's parking lot—and its demonostrations of new auto safety equipment and even a new California Highway Patrol helicopter, underlined the project's comprehensive goal.

The Van Nuys Safety Clinic proved that if people and organizations acknowledge two-wheeled accidents, they can do something about them. Two-Wheel Safety Clinics are expected to be promoted throughout California's DMV, and Suzuki Motor Corp. is already packaging dealer kits with step-by-step instructions on how to organize safety clinics. If the trend for clinics lasts, maybe riders will, too.

*—Merry MacTavish*

*Continued*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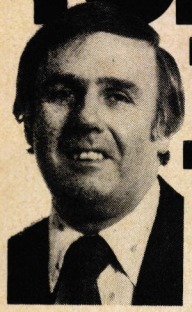
# TONY'S TIRE TIPS



**Tony Mills,** Manager Motorcycle Tire Development, Dunlop Tire Company

**Tip no. 4**

## TIRE CONSTRUCTION

**Q. What is the difference between bias-ply and bias-belted construction?**

**A.** Bias-ply tires have several layers of rubber-coated fabric, called plies, that run from bead to bead, criss-crossing each other. There are up to four plies in motorcycle tires. Engineers adjust the angle at which the plies meet, and the fabric type (nylon, polyester or rayon) to satisfy different performance characteristics. With bias-ply construction, you have consistent strength in both sidewall and tread.

In a bias-belted tire, such as Dunlop's K91 Mark II, the body plies are constructed the same as in a bias ply tire, but the tread area is further reinforced by circumferential belts. Since the belts are usually a very strong material — Dunlop uses Kevlar, that's pound for pound five times stronger than steel — bias-belted construction results in a tread area with higher load carrying capacity. The belts also keep the tread more stable for a better footprint on the road. This gives you optimum mileage and wet traction.

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# The Shredder

*Man maketh; The Shredder taketh away.*

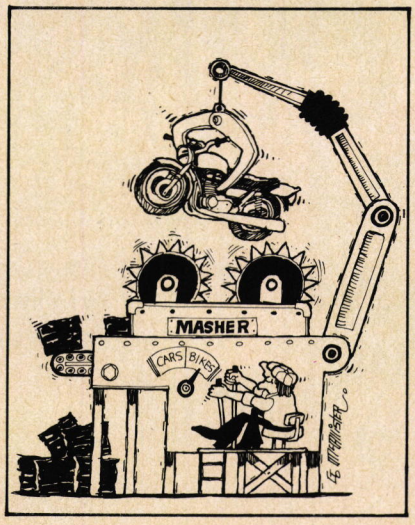
• It operates with all the swift, predictable devastation of a .357 hollowpoint. It gnaws, maims and finally rends everything within its reach. It is a heartless eating machine designed and engineered by man, dedicated solely to the destruction of some of man's finest creations. Its insatiable gorging is deafening—a gut-wrenching reminder of its evil dirty work.

The Shredder.

Words scarcely convey its monstrous impact as it transforms masterfully crafted examples of precision-built machinery into so many sheared and twisted fragments of uselessness. It endures as one of the colder and harder facts of life that some of man's finer works were not meant to be in the hands of the public; prototype motorcycles, for instance.

First-year prototypes are the maiden test of a manufacturer's engineering and design work. They exist in the space between wooden and plastic mock-ups and full-blown production machines. Sand-cast engine cases, non-jig-bent frames and one-off brackets and components are the rule. Because you couldn't bolt many production items onto or into one of these full-scale models if replacement parts were needed, the early prototypes are not practical to own. The manufacturers legally cannot sell them because they usually lack an emissions certification.

Never ones to underwrite waste, manufacturers employ various techniques to manipulate these mechanical oddities so that their comparatively short life spans are fully exploited. Some are used by service schools to acquaint mechanics with the model's unique characteristics and service requirements. Others are cannibalized when their components are needed by racing departments. Still others are lent to magazines in order to get stories on the newsstands near the time the production bikes roll into the showrooms.




No matter how willing and useful the prototypes prove, though, if they aren't devoured piecemeal by the system they must ultimately be destroyed. Time waits for no machine, and these early models must make way for the new production versions. The most efficient method of disposal to date is to crush these progenitors of tomorrow's motorcycles into twisted, unrecognizable shapes.

Deep within a vast industrial zone, surrounded by an expanse of recycled steel, lives The Shredder. Here among remnants of shattered dreams it survives on a steady diet of devices that have outlived their usefulness. On occasion, The Shredder pleasures itself on a feast of such delicacies as the protobikes. More often, it saves them for last—sort of a dessert after a main course of four-wheeled designs. The Shredder dines on the unique, the beautiful. It is not uncommon to see frenzied workers waving wads of money at austere corporate types in vain attempts to save some wheeled wonder from its grisly fate.

But the mind of the beast is undaunted; simple, savage, animalistic. It goes for the throat and fully embraces the sensation of mechanical teeth sinking into plastic, metal and rubber.

Its technique is time-proven. Anything larger than a mouthful is first compacted to a more palatable size by its huge hydraulic arms. The flowing lines of its wheeled meal will soon be little more than a grim memory. Its electromagnet swings ponderously to the next victim. As voltage courses through the cables, its prey is jerked from the ground and slammed against the magnet's scarred surface. Slowly the shiny machine is swung into position over its jaws. When the current is cut, the object of yesterday's interest falls to an inevitable doom.

The very earth begins to shudder as its full force is once again unleashed. The churning, grinding and groaning of its ineluctable motion rise to a roar. Nothing escapes its wrathful munching. Hardened steel crankshafts and gears are sheared again and again by its massive teeth.

Finally, the roar subsides. The trembling earth settles. A steady flow of shattered fragments and an ooze of oil emerge—the mute, anonymous remains of what was once technology's leading edge. Nary a valve spring remains intact. The fresh junk slides down a conveyor and into a waiting bin.

Outside the steel yard the world passes by. But inside the walls a hunger grows.

*—George Wegner*

trivia. If you were inclined to dismiss motorcycle **dragracing** as small potatoes, forget it. Cash and contingency awards for **NMRA's first** full **season** topped the $250,000 mark.

• Keeping with the theme of contingency and racing, **Castrol** has proved that it likes a little something on the side—and is willing to pay for it. As proof, Castrol has just announced a $2000 contingency program for the 1980 AMA/Castrol "S" **Sidecar Challenge,** with awards being paid out to sixth place.

• And finally, a report on the **international** scene. Information from **Spain** shows that the recent production slowdowns are old news. **Montesa** has reportedly started back into production, while a **$3 million** infusion from the Spanish government has **Bultaco** back on its feet and planning for the future.

• The news from Spain continues, with a reported $2 million **loan** to the workers at **OSSA** resulting in a **resumption** of work.

• And rounding out the information on overseas manufacturers, **production** at **Benelli** is expected to **double** following the opening of two new factories in Milan and Pesaro in September.

## AFTER THE FACT

• Coming Soon's lead item in the May issue covered the **Vetter** Mystery Ship, and since new information has surfaced an update is in order. The story noted the **Mystery** Ship's **$9995** pricetag and pointed out that the limited-edition superbike is powered by a Yoshimura KZ1000 engine. However, recent information sent out by Vetter shows that while **Yoshimura** will set up the engine pretty much as each of the 200 Mystery **Ship** owners wants, no work can be performed until the bike has been sold by Vetter. And then, any work done to the **engine** is at an additional cost.

**World's first production 125MX 'Pumper**

*And powered by Derbi, not Aspes.*

• If you've been asking about for a **Derbi 125** with an Aspes engine because you read about it in a March feature on water-cooled motocrossers, you've been wasting your time. A sharp-eyed Derbi representative has pointed out that the bike runs a Derbi **engine,** not an Aspes. And since the original story, the 125 Derbi has come into prominence as the **first** 125cc water-cooled **production** motocrosser. In addition to its Derbi engine with a pump circulating water to both the cylinder and head, the six-speed MXer runs a **Betor** 38mm fork and gas shocks, adding up to a full **foot** of wheel travel at either end.

*Continued*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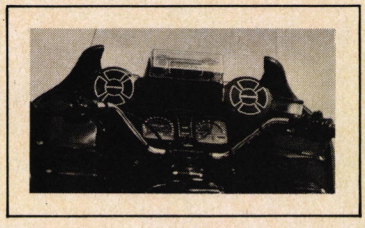

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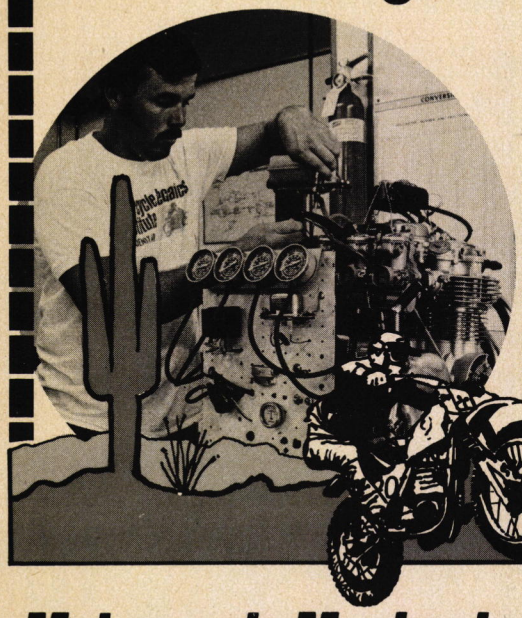

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# RUMORS

• Always reaching for the **inflammatory,** this month's selection of industry tales starts with something that could go straight to your **head.** One of the major helmet manufacturers is said to be close to the release of a new helmet design that doesn't rely on conventional **straps** to hold it in place. The **new-era** helmet reportedly uses a split, hinged collar that snaps up into place under the chin and behind the head to keep it **secure.**

**Bell's new XFM-1 car helmet**

*A possible look at the new Star III.*

• In another helmet item, the talk flying these days is that design **elements** taken from both Bell's new **Tour Star** and the recently introduced **XFM-1 F/1** car helmet will turn up on a new offering in the fall of 1981—a full-coverage Star III. If the talk pans out, the **Star III** will have a tensioning or ratchet device to allow for easy adjustment of the shield, while a recess along the helmet's front edge promises an end to wind blast through a **faired-in shield.**

• If you were paying attention to last month's Rumors column, you read information about new **Pro Link** bikes on the way from **Honda.** The item concerned new **Open-class** motorcrossers and enduro bikes that are reportedly in the wings for the 1981 model year. Confirmation from a **new source** says that the rumor was spot-on and the new singly suspended dirt bikes will arrive shortly.

• Continuing to bend your ear toward Honda will produce considerable hearsay about new **vee-powered** motorcycles. And perhaps a migraine earache as well. Starting with the most conventional of the rumors, sources say that the **CX500** will get a **displacement boost** for 1981—one that will change its designation to CX550. The story goes on that the **beefed-up** vee-twin will show up in three different configurations for the new model year.

• So much for generalities. If you press a little **harder,** the **details** begin to emerge. A little hushed conversation about those new CXs indicates that one of them will arrive with **full touring gear** bolted into place.

• But if your taste in vees runs to something a bit more, shall we say . . . **exotic,** the rest of the story could satisfy your hunger for could-be

machines. The design for the **CX engines** has always been considered modular, the sources insist, leading to the conclusion that they could easily be placed **in series.** And, according to the rumors, that's exactly what will happen. The result of harnessing two CX engines together will be a 1125cc water-cooled shaft-drive sport-touring **vee-four.**

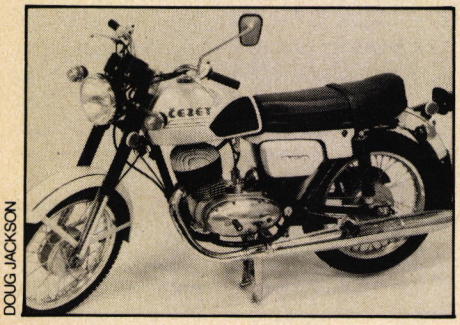
• Now, if you've paid attention to all of this, it would seem to sound the **final bell** for the **CBX.** With the CB900 and a new big-bore vee-four, where does the CBX fit into the scheme? But it's not the end for the big six, insiders claim. They say that with the introduction of a **new sport-tourer,** pressure will be taken from the CBX to be a bike for all reasons. And that once freed from the touring chores, the CBX can get back to where it once belonged—at the top of **Hyperbike Hill.**

• Of course, Honda isn't the only manufacturer interested in **vees.** Reportedly, **Yamaha** will add a vee-engined bike of **unknown displacement** to its list of singles, twins, triples and fours for the coming model year.

• But if talk of street-burners bores you and if pavement is, after all, just so much tarmac, you should take note of the word coming from **Spain** these days. A reportedly rejuvenated **Bultaco** plans to get back in the market with a new 340cc **six-speed** trials bike.

• And as a final note for all you go-fast **motocross** types, the **laser-quick** machines hitting the tracks these days have spawned some speculation for the future. Sources in the know claim that you shouldn't be too surprised if **production** MXers started showing up with **disc brakes** to burn all that speed off.

## APART FROM THE CROWD




DOUG JACKSON

**CZ's new 250cc Cezet**

*A regrettable choice of names.*

• File this under What's In A **Name.** CZ's new 250cc street bike might prove utterly roadworthy, but it probably won't be remembered for its capabilities. No, the Jikov 26mm carburetor and the four-speed gearbox won't generate any remembrances. And the 289-pound dry weight and the 69 mph top speed won't be **recalled.** What you'll probably remember if you ever see one is the unfortunate name painted on the gas tank. For this new 250cc street has been dubbed **Cezet.**

• Have you ever, even in your wildest imaginings, considered the world's **record** for the

*Continued*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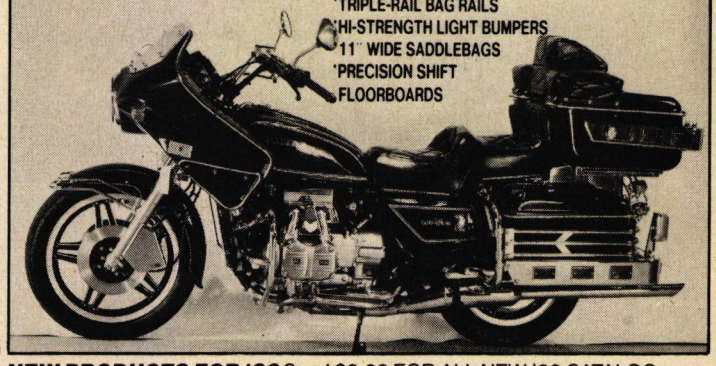

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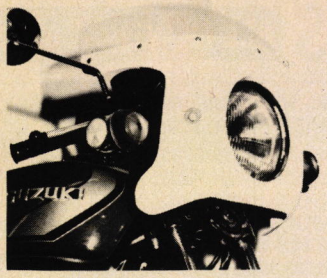

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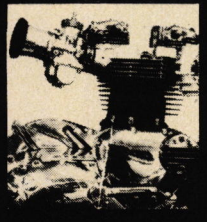

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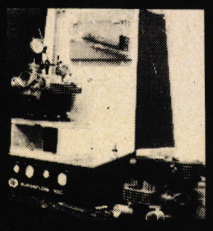

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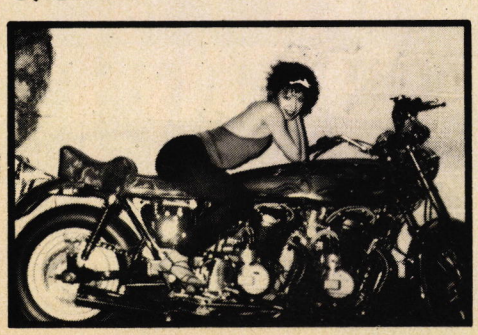

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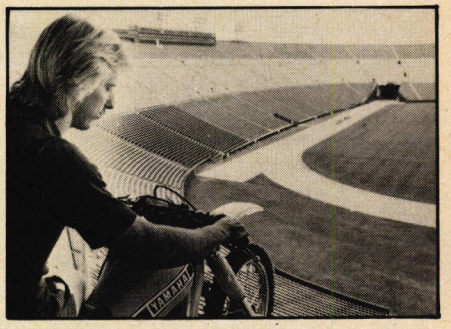
number of times a Harley can be **kickstarted** in one minute? No? Well, for those of you with a taste for trivia, the record is held by one Lynn Linville, who won Harley's "Just For Kicks" contest in Daytona. Linville legged it to first place by kickstarting his '51 **flathead** 49 times in 60 seconds. This pacesetting stomping outstripped second place by a full 13 starts. 1980's **King Kicker** took home a set of Harley leathers for his efforts.

• So much for the power of the leg. For the power of the nose, try this one on for size. The British Motor Corporation of Canada estimates that a simple **sneeze** can put you **out of control** on the road for **440** yards at 60 mph. This estimate is based on a statistically average sneeze of 15 seconds duration and should be used for comparison only. Your sneeze duration may vary.



**View from the top at L.A. Coliseum**

*To a record five stories down.*

• If you pulled out your calculator to answer the sneeze question, turn it back on to figure out how far a motorcycle can fall during a jump and still ride away. If your solution is **five stories** for a vertical **jump,** you're in agreement with Gary Wells, world record holder for the longest horizontal motorcycle jump. Wells is slated to try for the **vertical** record in Mickey Thompson's Off-Road Championship, to be held in the Los Angeles Coliseum.

• What do you suppose a gallon of **gasoline,** 30 bottles of table **wine** (choose your own vintage) and 10 pounds of **coal** have in common? If you said taste, you've probably got terrible judgment in wine. No, according to "Interesting Energy Facts," a publication of the Department of Energy, all three substances contain the same energy potential in **BTUs.**

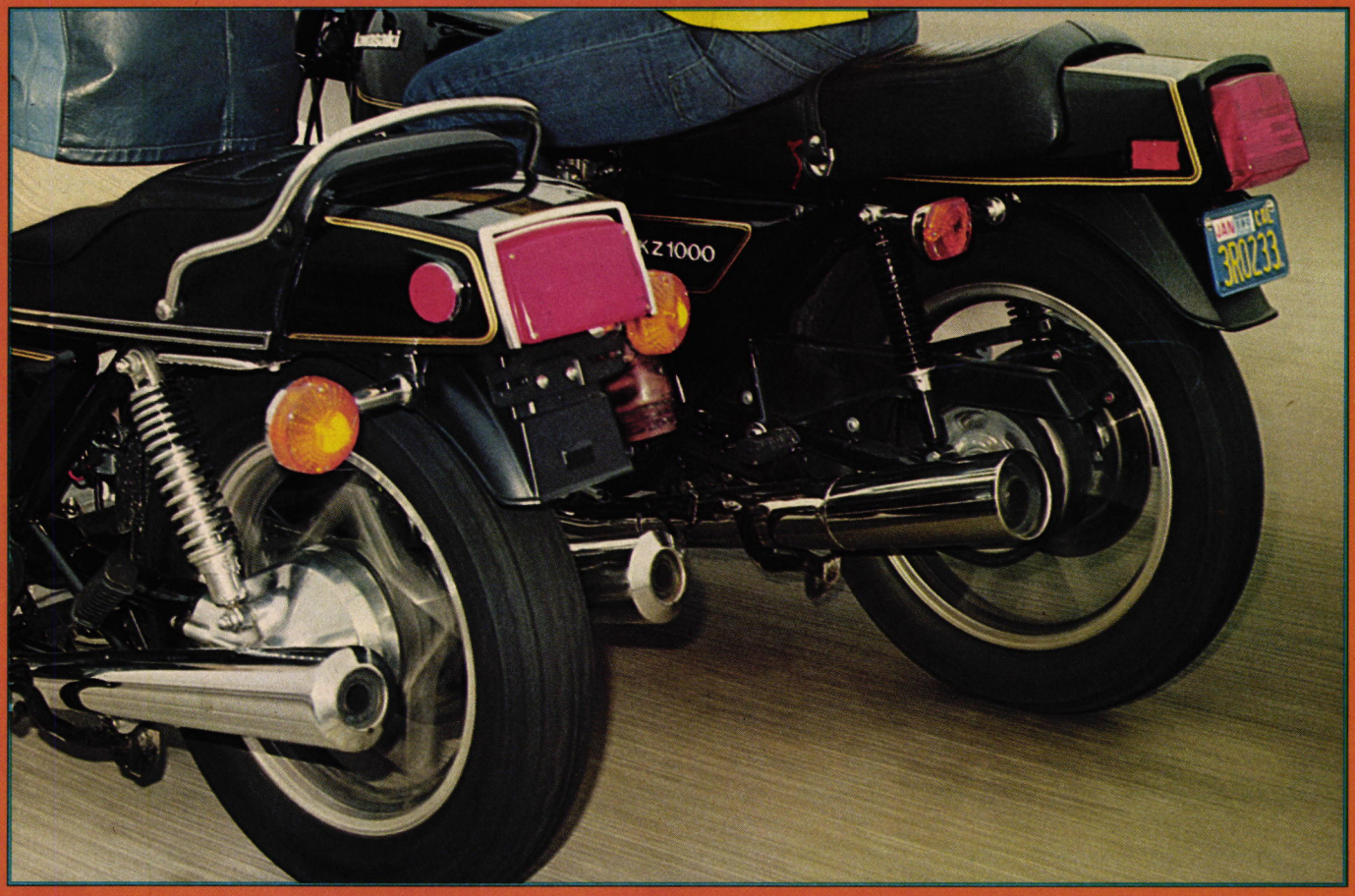
• Can you make a **superbike** that gets **100 mpg?** Have you designed a bearing that **eliminates friction?** How about a paint that cuts wind resistance by 50 percent? Or perhaps something more mundane. Whatever, if invention is your game, you might make use of the **Department of Commerce** Office of Productivity, Technology and Innovation. This new department has been established to stimulate **shadetree** innovation by helping to get inventions to the marketplace sooner.

• You probably think that your favorite **motocross** track is tough. Not hardly. At least, it's probably not as **tough** as the **Dunrod** circuit in Northern Ireland, where an abandoned van left trackside took out a significant portion of the track when its cargo of **300 pounds** of **explosives** detonated recently. ●

COMPARISON ROAD TEST:

# Shaft vs. Chain

*The Suzuki GS10000G, Suzuki GS1000E, Kawasaki KZ1000 and Kawasaki KZ1000 Shaft meet in The Great Hyperdrive Shootout.*




PHOTOGRAPHY: DAVID CLARK

BY MICHAEL JORDAN

Just one Saturday has taught most of us all we need to know about the wisdom of using a chain to connect a motorcycle's engine with its rear wheel. You spend the morning at the 50-cent carwash cleaning a grime-encrusted rear wheel and an afternoon groveling on a garage floor while adjusting the chain and aligning the rear wheel. A chain is a pain, really. Shaft drive looks so tidy in comparison. No grease, no adjustments, no alignment. What possibly could be better for everybody?

In the minds of most American riders, shaft drive has the same sort of fascination as m&ms—final drive goodness with no chocolate mess. Even so, discussions of the relative merits of chain drive and shaft drive usually are rooted in prejudices formed a decade ago, when superbikes were fitted with chains that stretched like salt water taffy and only BMW and Moto Guzzi owners ventured more than 20 miles from home without a chain breaker and a pocketful of masterlinks. And so conventional wisdom says chains are for sport bikes and shafts are for touring bikes.

The presence of 1000cc bikes from Kawasaki and now Suzuki in both chain- and shaft-drive configurations gives us the opportunity to finally get to the truth of the

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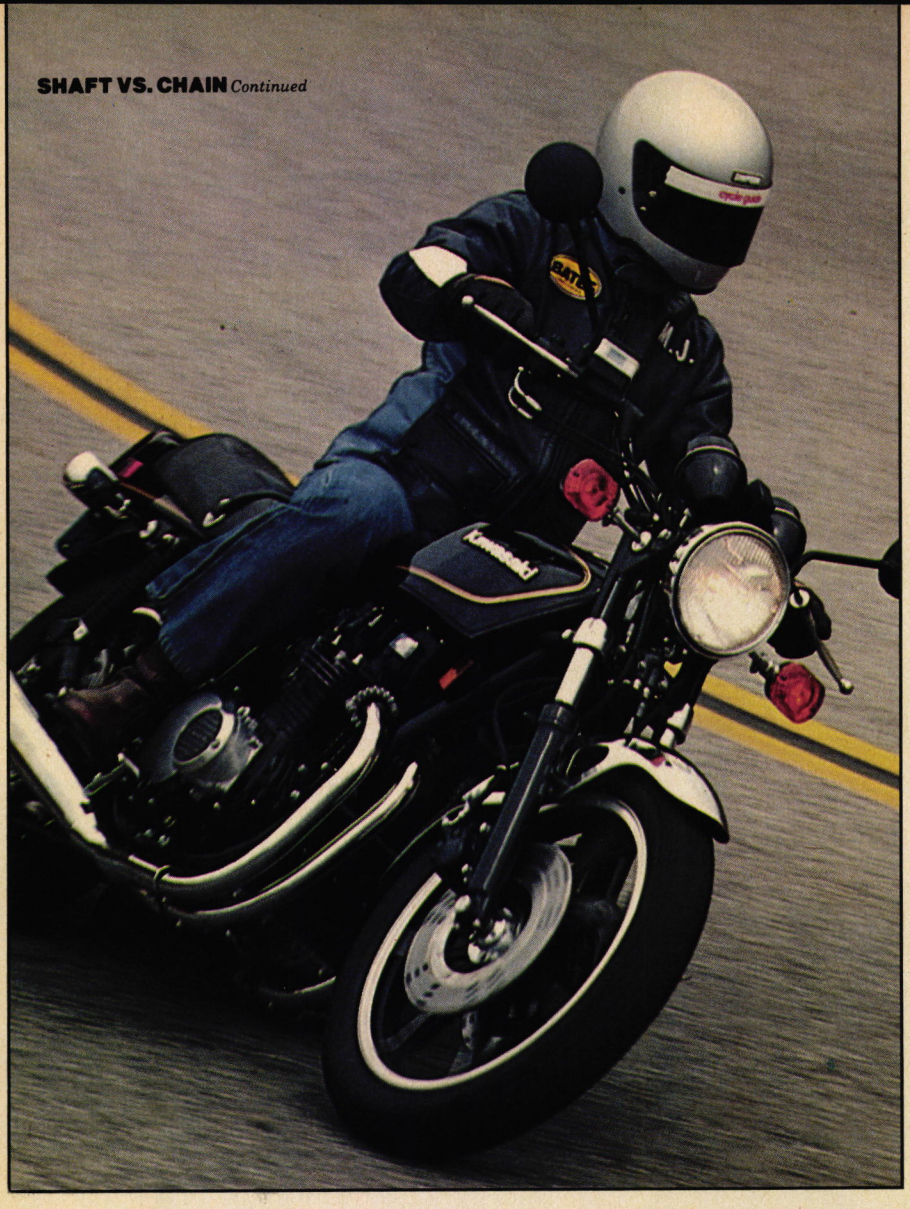


shaft vs. chain controversy. Although these shafties are touted as touring bikes, their roles aren't actually so narrowly defined in the minds of their designers, suggesting that a back-to-back comparison of final-drive systems can be made by putting the 1000cc Suzukis and Kawasakis together.

We were fired up at the prospect of final-drive shootout. And so to supplement our usual long-distance testing, Managing Editor Larry Works, Technical Editor David Dewhurst, Sport Editor Dain Gingerelli and I rode the new Suzuki GS1000G, Suzuki GS1000E, Kawasaki KZ1000 Shaft and Kawasaki KZ1000 in a pack for 250 miles, over mountain roads, rural two-lane and Interstate concrete, to find out where the prejudice about final drives ended and the truth began. In the end, this controlled experiment in rear-wheel motivation for hyperbikes—hyperdrive, if you will—confirmed the results of our usual testing by challenging assumptions, deflating myths and establishing new frontiers of rational thought about hyperdrive.

The most noteworthy competitor in The Great Hyperdrive Shootout is the new Suzuki GS1000G, Suzuki's long-awaited entry in the full-size touring bike category. A GS1000 engine with a modified clutch (see page 36) has been levered into a GS850G chassis identical to the one *CG* tested in March, 1979. Its chain-drive partner, the GS1000E, has changed little since we last tested it in November of 1979 aside from the adoption of CV carbs and transistorized ignition to meet 1980 emissions requirements. Only a new dual-density foam seat has been added to the best combination of speed, comfort and handling that your money can buy.

Kawasaki upgraded the standard KZ1000 substantially last year as *CG*'s April, 1979 road test revealed. The seven additional horsepower renewed the engine's vitality while a strengthened frame and more-compliant suspension improved handling. The standard Z-1 remains much the same this year, as does the KZ1000 Shaft also tested in April, 1979. The shaftie is distinguished from the chain version by different gusseting around the steering head, a leading-axle fork with 40mm-diameter stanchion tubes, tapered-roller steering head bearings, a lower seat and a low-rise handlebar.

Once *Cycle Guide*'s own happy band of marauders finished gorging themselves on breakfast, we assembled at the nearest Union 76 station to gas up for the shootout. There was a noticeable increase in fuel capacity for the shafties—0.8 gallons for the GS, 0.3 gallons for the KZ by our measurements—and their 35-pound weight penalty due to shaft drive made them harder to push around on the concrete. Once we got underway, though, the differences between chain and shaft blurred again. For one, the annoying graunch and lurch that has come to be associated with shaft drive (thanks to BMW and Yamaha) was refuted by the precision (with slightly higher effort) with which the 1000G and KayZee shafties changed gears. Poor shifting, therefore, should be blamed on cranky transmissions, not on shaft drive. A shuddering clutch marred the GS-bikes, though, while the drag built into the KZ shaft's clutch in an effort to smooth out its engagement made it difficult to locate neutral unless the bike was at full stop.

With President Eisenhower's Interstate concrete under our wheels, we expected some significant differences in riding comfort between the chain gang and the shafties. The additional unsprung weight at the rear wheel of the shafties—10.6 pounds for the G-model, 9.3 Pounds for the KZ—should make their rear suspensions less responsive to small bumps than those of the chain-drive bikes, canceling out the effect of the shafties' soft, touring suspensions. Or at least so Dewhurst asserted, and he claims to be a personal friend of Father Physics. Dewhurst even offered to prove it with a few formulas, but fortunately a quick tongue-lashing from Works brought him under control

The chain-gang bikes indeed earned praise from all quarters as they rolled across the Interstate's expansion joints. The Z-1's suspension doesn't go to sleep over small bumps like it used to, even though its fork lacks an anti-stiction bushing at the top of the sliders like the GS1000s'. The Suzuki E-model's suspension is even more responsive, showing why this bike is the king of comfort.

Father Physics or not, though, the shafties were far from clumsy on the freeway. The Kawasaki Shaft's fork smothered the bumps almost as well as the Z-1's, even though a leading-axle fork generally cannot absorb small inputs as well as large ones. Its axle is out ahead of the fork leg centerline, which means bump force is vectored into the critical area of overlap at an angle to the fork legs, actually amplify-

ing stiction. Increased overlap makes the design stronger than a straight-leg fork, though, as well as providing more bearing surface for better response, so in the end the KayZee Shaft's fork can do a good job of absorbing large impacts at the expense of some dullness over things like expansion joints. Meanwhile, the KZ Shaft's slower steering geometry and higher center of gravity compared to the chain version give it amazing directional stability.

The GS1000G was not only far from clumsy, it was nearly as good at smothering the bumps as the E-model. At first the fork felt a little stiff, but increasing the rebound damping of the adjustable rear shocks to slot No. 2 gave the bike a better front-to-rear suspension balance. Its only problem lay in a tendency to follow longitudinal grooves in the pavement, giving it far poorer stability than the Kawasakis.

A study of the situation revealed that the chain-drive bikes indeed were more responsive to bumps, but at the expense of constant suspension movement. Neither shaftie moved as much on its suspension, making them feel far more capable than they really were. This steadiness makes the shaft-drive bikes seem extremely good at insulating you from the road, but when you actually measure comfort by the magnitude of the thumps being transmitted by the seat, the chain-drive bikes are superior. Because the seats of the Suzukis are so comfortable in their own right, however, the difference between the chain-and shaft-drive GS-bikes feels pretty slim. But because the Kawasaki seats are both poorly shaped and thinly padded, the ride-quality gap between chain and shaft is a lot more apparent.

PATRICK BEHAR

Just as the difference in ride quality between chain and shaft was smaller than conventional wisdom would have it, so too the difference in fuel mileage—at least in the cruise mode—was smaller than expected. One mileage check after a lengthy cruise at a wary 62 mph shook out with the Suzuki GS1000G on top with 51.1 mpg, the chain-drive GS1000 next with 49.6 mpg, the standard Z-1 at 44.9 mpg and finally the Kawasaki Shaft at 44.3 mpg. Apparently there's little difference in fuel efficiency between chain drive and shaft drive under steady cruise conditions.

When a can of chain lube appeared at the gas stops, a few snide comments about the reliability of chains and shafts were generally traded. Although no blows were

**Pre-lunch debriefing in front of the elegant and refined Pt. Fermin cafe**

*Dropping out of hyperspace for a polite repast among the earthbound inhabitants of San Pedro.*

*Continued*

struck, some interesting facts were revealed. First, today's O-ring chains generally deliver 20,000 miles of trouble-free life with perhaps just four or five adjustments before replacement must be considered. The price you pay is unholstering the chain lube every 200 miles or so. Shaft drive isn't completely maintenance-free, either, but the service intervals are longer. The hypoid gear oil in the Suzuki's transmission gear case and rear end must be changed every 7000 miles. The Kawasaki's bevel-gear case is integrated with the transmission, so it benefits from the 3000-mile service intervals for engine oil. The Kawasaki's final-drive lubrication must be replaced every 18,000 miles.

There were clouds obscuring the tops of the San Bernadino Mountains as we began the handling portion of our shootout, promising mist and slick pavement ahead. Gingerelli led the way with little apparent regard for his personal safety anyway, generating some crude remarks about the judgment of the average Italian roadracer. We all followed at good speed nevertheless.

Aside from any comparisons of chain and shaft drives, a number of things about the Suzukis and Kawasakis were immediately made clear. First of all, the V-rated IRC tires on the Suzukis afforded far more grip than the slick and spooky rubber of the Kawasakis. The quick steering of the Z-1 made it a favorite in hairpins while both Suzukis arced around fast bends with the resolute stability that the Kawasaki Shaft showed in upright riding. The four-position adjustable rebound damping of the shocks and the air-spring forks on the GS-bikes made the Suzukis easy to set up for high-speed antics. Meanwhile, both Kawasakis felt oversprung and underdamped (the standard Z-1's shocks had to be replaced after 3000 miles).

Touring shafties aren't supposed to handle well in the twisties and the Kawasaki Shaft showed why. The same high center of gravity and heavy steering that made it fly hot, straight and normal on the freeway made it very clumsy while changing direction in the mountains. Furthermore, the combination of soft suspension and 584 pounds formed a diabolical combination in the corners. There's just enough shaft-drive related rear-end rise and fall under acceleration and deceleration to upset the bike seriously when peg-scratching is called for, and the bike also wallows around at anything over 60 mph. This bike is clearly calibrated for the flatlands.

Yet even though the Suzuki G-model has heavy metal connecting its engine and rear wheel, it displayed no vices at all in the corners. Dewhurst was the first to remark upon how stable the bike felt at high speeds. We didn't have to resort to stiff suspension settings to bring out the bike's goodness either, though the shocks eventually did their best work with the spring preload set to position No. 3 and the rebound damping set to position No. 3.

The comparison between the G-model and E-model made the Suzuki shaftie seem even better. The chain-drive bike is one of the best-handling bikes you can buy. Part of the secret lies in the way it strokes up and down on its suspension in the corners, for the bumps can't knock it off line. The Suzuki shaftie offered the same good manners as the E-model in terms of accurate steering and confident tracking, but it didn't move up and down on its suspension as much as the chain-drive bike. Here again, as on the freeway, the Suzuki shaftie felt as if it maintained its equilibrium better than the E-model, and again at the price of being knocked around a little by the bumps. We had to be a bit more deliberate with the shaftie to keep it from swinging its weight around, but on the whole it became the favorite of the corner-chargers because of this impression of incredible stability.

The G-model's competence in the corners also pointed out how important a proper alignment can be for a shaftie. Conventional wisdom maintains that alignment isn't necessary for shafties, but that overlooks the fact that the factory must insure that the rear wheel points in the same direction as the front when the driveshaft is hooked up. Then your dealer must adjust the tapered roller bearings in the swingarm pivot to get the contact patches in line. Any failure to do either will infect a bike with wobbles.

As good as the Suzuki shaft proved in the mountains, a debriefing at the nearest gas station revealed some sacrifices in fuel economy for both shafties. The KZ1000 was the mileage champ with 36.5 mpg and the KZ1000 Shaft checked in with 32.2 mpg. The mileage for the Suzukis dropped precipitously, to 32.2 for the GS1000E and to 29.7 for the G-model. When a lot of acceleration is called for, then, the weight and power-loss inherent in shaft drive come into play and impose a penalty.

The GS1000G backed up its remarkable performance in the mountains with civilized manners in town. Simply, there was virtually no drivetrain lash with the G-model, despite the fact that it suffers from the same abrupt throttle response as the E-model because of the Mikuni CV carburetors. The Suzuki shaftie never stuttered or lunged in traffic the way the chain-drive bike did, and there wasn't a hint of the rear-end antics that make BMWs, Honda and Yamaha shaft-drivers so annoying in traffic. To a lesser extent, the Kawasaki Shaft also displayed remarkably little drivetrain lash. But the king of Main Street was far and away the G-model,

thanks to a deliberate low-lash design that includes zero-clearance spiral-bevel gearsets, firmer rubber dampers in the rear wheel hub and the simple fact that it doesn't have to cope with a chain alternately going slack and tightening up.

When it came time to choose favorites at the conclusion of the shootout, there wasn't much hesitation. The winner was the GS1000G, followed by the GS1000E, the KZ1000 and the KZ1000 Shaft. Although the KayZee shaft drive displays fewer performance glitches than that of either Yamaha, Honda or BMW—a remarkable accomplishment—it offered no performance advantage over the standard Z-1 in either comfort or handling. It's an Interstate Kawasaki with shaft checked off on the option list. The Z-1 itself earns merit points for the way it humbled the others in roll-on acceleration. When you're in the mood for horsepower, there's nothing like the Z-1 to make you sit up and take notice—but it's still not as comfortable as the GS-bikes and doesn't corner as well either. The E-model Suzuki earned second place because it does all things supremely well, whether it's in the touring mode or in the sporting mode. The G-model does all the same things fractionally less well, but the convenience of shaft drive and its civilized town manners make it an easier bike to live with, and when two motorcycles are as close in performance as the Suzukis are, easy-to-live-with separates the winners from the losers.

In the end of course, these conclusions aren't based entirely upon the choice of hyperdrive. That's because each of these bikes refutes the conventional hyperdrive myths. Yes, chain drive bikes offer less unsprung weight and better suspension response, which pays off in a high comfort quotient as well as good handling. And yes, shaft drive bikes offer fewer maintenance hassles. But as these bikes have revealed, the compromises inherent in each form of hyperdrive can be minimized until they are almost unnoticeable, thanks largely to the longevity of 0-ring chains and the good manners of low-lash shaft drive. What is more important than chain or shaft is the care with which the entire bike is designed, for even with less unsprung weight, the Kawasaki KZ1000 can't measure up to the Suzuki shaftie in comfort or handling.

Suzuki's engineers have demonstrated that it's possible to refine shaft-drive motorcycles until they are almost indistinguishable from chain drives in terms of performance, and still offer the convenience that makes shafties so persuasive. Sure, at the very outer limits of speed and comfort, the E-model has an edge over the shaftie, but the obstacles *can* be overcome, and in real-world riding the difference is negligible. When you figure that the G-model won't force you to spend a lot of time scrubbing congealed chain lube from the rear wheel, the shaftie has to sway your allegiance from chain drive.

In the future, the enthusiasm of Americans for the tidiness of shaft drive will certainly produce more shafties in the showrooms. But that doesn't mean that sacrifices will have to be made for whatever convenience they offer. For us, the whole dispute of chain versus shaft obscures the important point that a good motorcycle is a good motorcycle no matter what connects the engine with the rear wheels. •

*Continued*

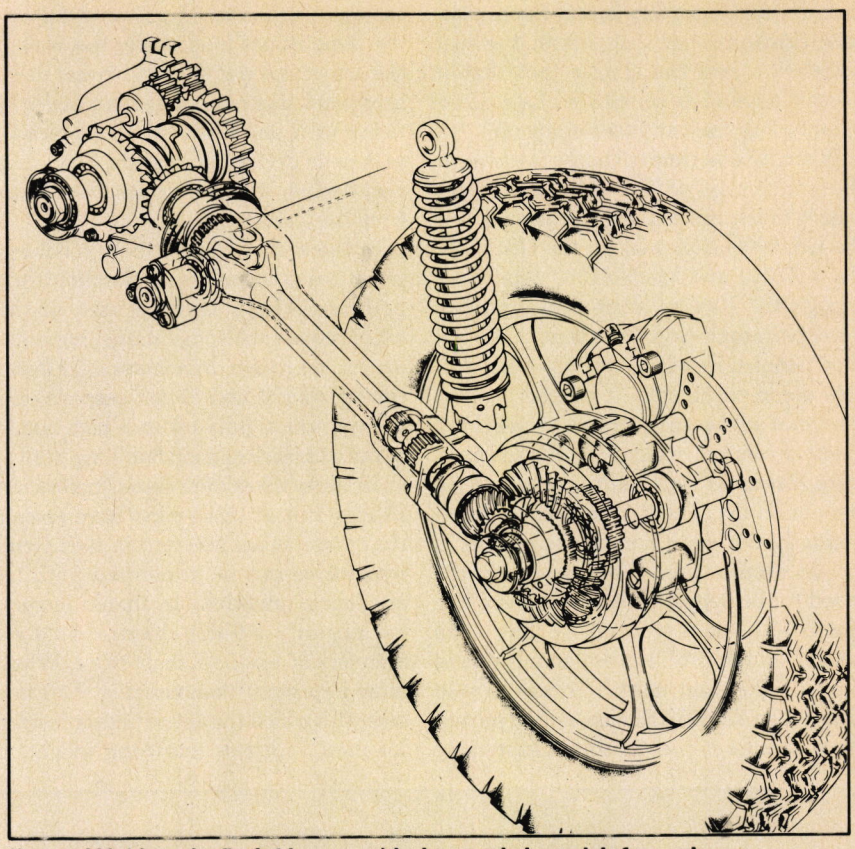
# The Hyperdrive Conversion

• When Suzuki and Kawasaki elected to use their existing chain-drive 1000s as the basis of shaft-drive bikes, they understood that more than a hyperdrive modification was required. There are numerous details that distinguish the GS1000G and KZ1000 Shaft from their siblings in the chain gang, and looking closely at the conversion gives clues to the way in which shaft drive significantly alters a bike's design and engineering priorities.

The central task facing both Suzuki and Kawasaki was to channel power from the transmission's transverse shaft where the countershaft sprocket used to reside, into a longitudinal propeller shaft driving a ring-and-pinion-gear arrangement at the rear hub. With characteristic directness, Kawasaki solved the problem by adapting a pair of spiral-bevel gears to the end of the output shaft. A large spring-loaded driveline shock absorber—called a cush drive—just inboard of the spiral-bevel gears cushions the effects of the driveline lash accumulated as the engine's power undergoes its various gear reductions. The Kawasaki's spiral-bevel gearcase is integrated into the transmission, which means the gears are lubricated by engine oil that requires a change every 3000 miles.

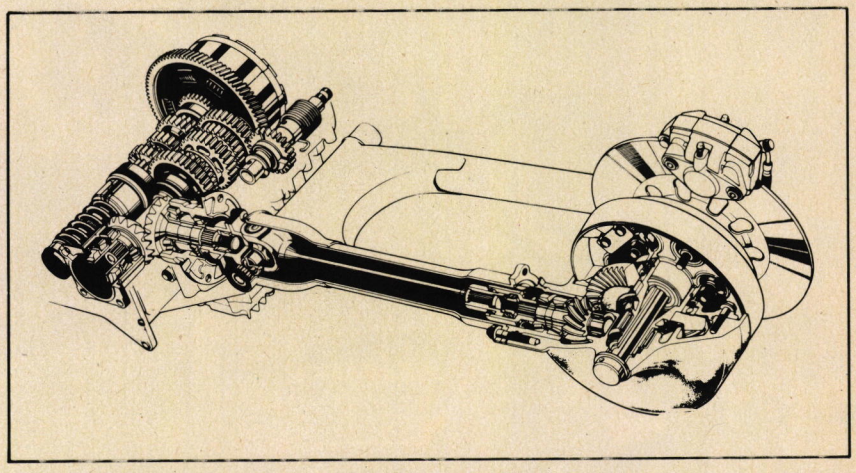
Suzuki's approach to turning the driveshaft corner looks just as simple as Kawasaki's, but it's actually far more complex because the engineers have gone to great lengths to eliminate driveline lash. The strategy is identical to that used for the GS850G, although several crucial pieces have been significantly strengthened through more extensive heat treating.

Like Kawasaki, the GS1000G has a pair of spiral-bevel gears on its output shaft, but the cush drive lies on the transmission mainshaft. The clutch doesn't turn the mainshaft in the conventional way, though. A long jackshaft inside of the mainshaft connects the right-side clutch to the cush drive on the left side. Here the cush drive eases the shock of any driveline lash before it can be multiplied by the gearbox. The cush drive then spins the transmission mainshaft, and power flows normally to the output shaft. And because power now enters the mainshaft at the left side, the entire 10-gear transmission cluster (identical to the 850's) is flopped 180 degrees so first gear can be closest to the point of power application. This way, the massive torque multiplication in first gear won't try to twist the mainshaft in two. Another interesting feature that separates the Suzuki shaft from the KZ is the fact that the backlash of the G-model's spiral-bevel gears is set to 0.08—0.13mm while the lash of the KZ's gears is 0.13—0.18mm.



**Kawasaki bridges the final-drive gap with characteristic straightforwardness**

*Heavy-duty cush-drive lies adjacent to spiral-bevel gears for simplicity's sake.*



**Suzuki 1000's shaft drive is almost identical to GS850G's**

*Low-lash design, close tolerances and good suspension make it work for you.*

The Suzuki's transmission is lubricated conventionally, but the spiral-bevel gears are sealed in a separate case filled with hypoid gear oil that requires replacement every 7000 miles. The superior lubrication afforded by hypoid oil makes this system theoretically superior, but because the KZ1000 Shaft gets more frequent oil changes, things are pretty well evened up.

Just turning the driveshaft corner doesn't end the hyperdrive conversion of a chain-drive bike, though. The more direct connection between engine and rear wheel, both in terms of friction and driveline lash, places tremendous loads on the clutch—especially when you consider that both shafties are designed to be laden with touring accessories. So the clutch hubs and baskets of both the GS1000G and KZ1000 Shaft are stronger than those of the chain gang. The KayZee's are of steel rather than aluminum, while the GS uses pieces from

the GS1100. The Kawasaki's clutch hub also incorporates a damper to cushion some driveline lash. At the same time, both shafties have more plates in the clutch to add friction area.

For all this emphasis on clutch strength, however, both Suzuki and Kawasaki use the clutch to cushion driveline lash as well. They do this by building a little slip into its action to insure that engagement is very smooth. Kawasaki does it by using lighter clutch springs than the Z-1, while Suzuki employs wave washers between the plates and a clever arrangement to direct more oil to the plates.

Another interesting step in the conversion from chain to shaft is suspension calibration. Although the Kawasaki shaftie is designed to carry more weight than the standard Z-1, its suspension travel is initially softer and then gradually increases thanks to progressively wound springs. The compression damping of the rear shocks is stiffer than that of the Z-1, but otherwise, damping both fore and aft is softer. Apparently, Kawasaki's engineers have attempted to improve the bike's ride quality with soft initial suspension rates, while controlling the motion and preventing bottoming with stiffer final rates.

The Suzuki shaft's suspension is also softer than the E-model's. The fork, which Suzuki says is identical to the E-model's, is pressurized to 8.5 psi as a reference point instead of 11.4 psi. At the rear the first stage of adjustable rebound damping is 19 percent softer than the first step of the GS1000's shocks, while the top three slots correspond to the bottom three on the GS1000. Spring rates are identical.

There are other differences between the shafties and chain gang, but the reference points in the hyperdrive conversion appear to be the clutch and suspension as far as Kawasaki and Suzuki are concerned. The engines, for example, are identical, although the airboxes for the shafties are somewhat different.

This suggests that the most important problems in the conversion are the control of driveline lash and the control of the shaftie's weight penalty. Certainly it's here that the differences between the Kawasaki shaft and the Suzuki shaft are most apparent, not to mention the differences between shafties and the chain gang in general. For even though the shaft Kawasaki is the second-best in the industry when it comes to driveline lash, it can't compete with the almost lash-free Suzuki. And the Kawasaki's suspension can't begin to cope with the effects of rear-end movement with the aplomb the G-model manages when the throttle is opened and closed. And it's precisely because the Suzuki shaftie has these two factors under control that it's able to compete on an equal footing with the Z-1 and GS1000E. —*Michael Jordan*

## *VIEWPOINT:*

# The Final Drive Connection

*Resolving the shaft vs. chain confrontation.*

• Shaft drives may be The Answer, but I'm not convinced that chain drives still are The Question. The chain-to-shaft conversions on these supercycles are, admittedly, conclusive evidence that shafties need not exhibit the clunks, thunks and chassis gyrations that have made shaft drives infamous; but neither of these unchained models is as much fun for me to ride as its roller-linked counterpart. The GS1000G almost is, but I can feel its 36 extra pounds of beef every time I toss it into a turn; and that, plus the added complication of cush drives, jackshafts and two sets of spiral-bevel gears, flies directly in the face of what put me hopelessly in love with big Suzukis to begin with: They were the lightest and simplest Fours of all.

Matters over at Kawasaki do little to change my mind. The standard KZ1000 is fast, reasonably nimble and, like the GS1000E, needing of a chain adjustment only once every few thousand miles. So I wouldn't opt for a life of hand-to-hand combat with a KZ1000 Shaft just to avoid having to turn two chain adjuster bolts every once in a while. That's why I can sum up my feelings about shafties in four words: Close, but no cigar. —*Paul Dean*

• Shaft-drive motorcycles make sense to me. But only because they make top-gear traveling in a straight line perfectly painless. Otherwise, shafties tend to pitch and wiggle in the turns and the rear end rises and falls after shifts like the stock market in an election year. Still, I've never disputed the advantages shaft drive has over chain drive: no adjustments, no messy lube every several hundred miles and no routine replacement of drivetrain components.

But I can't get away from the fact that I like high-performance handling in the motorcycles I ride. And in the past, shaft-drive bikes haven't offered this kind of performance. So because performance outweighs practicality in my personal moto-manual, I've kept my distance from shafties.

The Suzuki GS1000G offers the practicality I'd expect from shaft drive—but even better, it handles. There's no mambo from the rear-end with every shift and none of the cornering goodness of the GS1000E has been lost in the translation to shaft drive. When I'm backroad berserking, I feel as confident on the G-model as I do on the E-model. The Suzuki GS1000G delivers me from chain-gang bondage—from now on give me the shaft. —*Dain Gingerelli*

• It's beyond me how someone could pick an inefficient, bulky shaft drive when chain drive is available. With just about everything going against it and only slightly reduced maintenance in its favor, shaft drive ends up looking a little silly.

So imagine my surprise when I boarded the Suzuki shaft and enjoyed it. The 1000G had none of the handling quirks normally associated with shafts—like excessive weight and a rising/setting rear end. In fact, it did everything almost as well as the chain-drive E-type. But the E weighs less, has less unsprung weight, less complexity and is narrower, so other than a design exercise, what was the point of the shaft?

With the Kawasakis the difference was even more pronounced. The chain version did everything pretty well, but the shaftie displayed all the problems of shafts. The extra weight and width are evident, driveline lash was a problem and geometry changes because of the jacking up and down of the rear end made it my least favorite of the foursome. And although the G-type had me doubting for a moment my faith in chains, the Kawasaki convinced me that chain drive is still superior.

—*David Dewhurst*

• This isn't an SAE-style position statement on spiral-bevel gears or cush drives or the care and feeding of master links. And it certainly isn't an accounting of the power that's lost bending the motion of an engine through a driveshaft to get it to the rear wheel. That's all been done before—with about as much effect as proving that bees can't fly.

No, this is testimony for a shaft-drive system that works. And it's in essence a resounding "I told you so."

Quantify it in any meaningful way and the Suzuki's shaft drive is a success. And that doesn't just mean that the bike rolls forward when you twist the throttle. What it means is that in high-performance testing, the shaftie functioned on a par with its chain-drive counterpart, one of the best-handling motorcycles ever built. Beyond some techno bench-racing, its higher weight and longer parts list have little real-world relevance—not when the shaft-drive Suzuki can perform as well as the lighter, less complicated version.

So you can debate the matter all you want, the GS1000G is high-tech rolling proof that shaft drive has arrived.

—*Larry Works*

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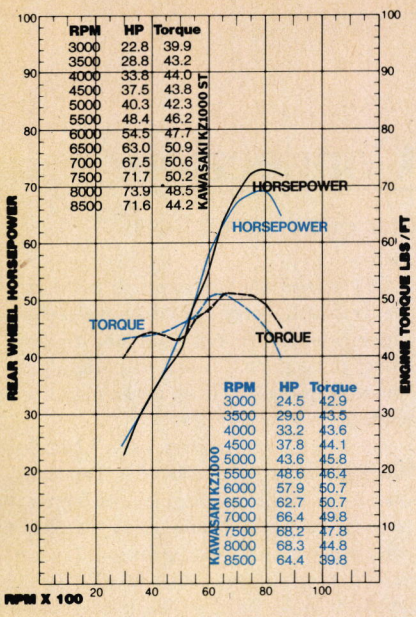
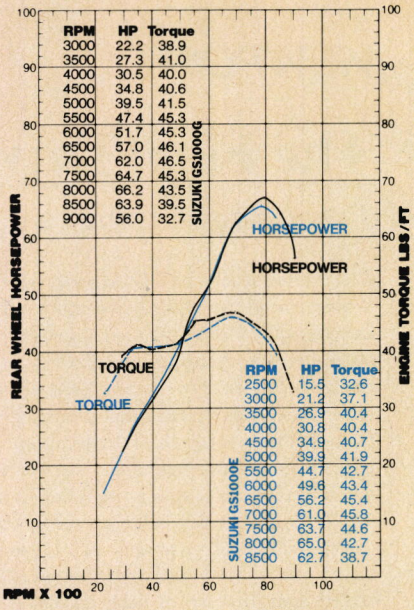
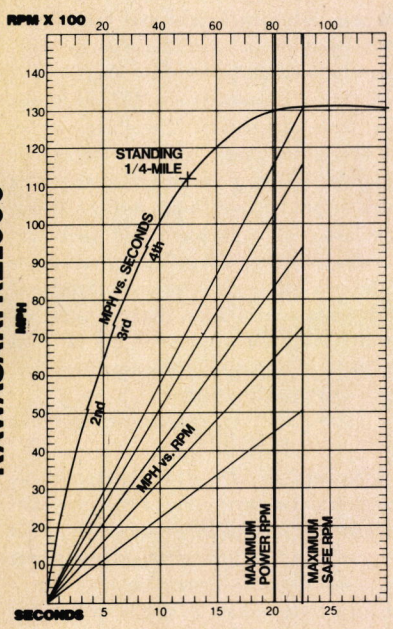
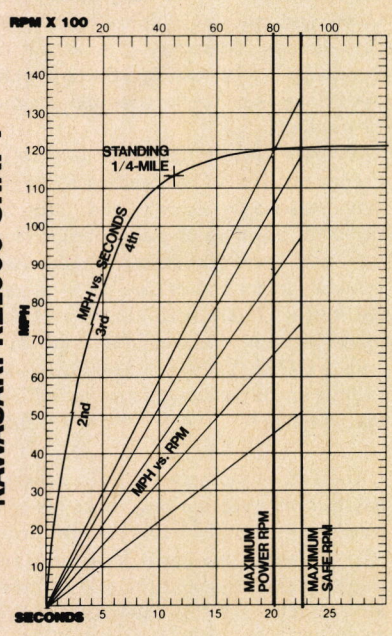


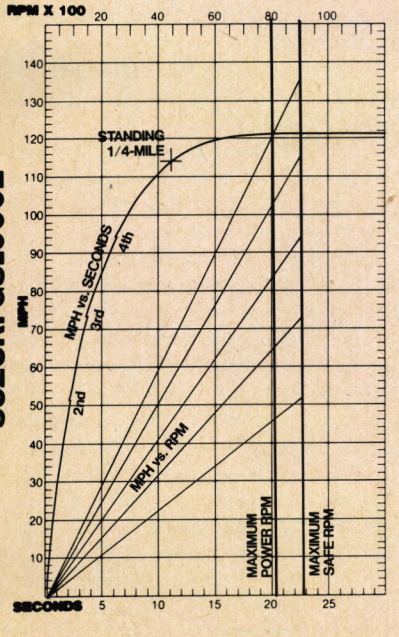

KAWASAKI KZ1000



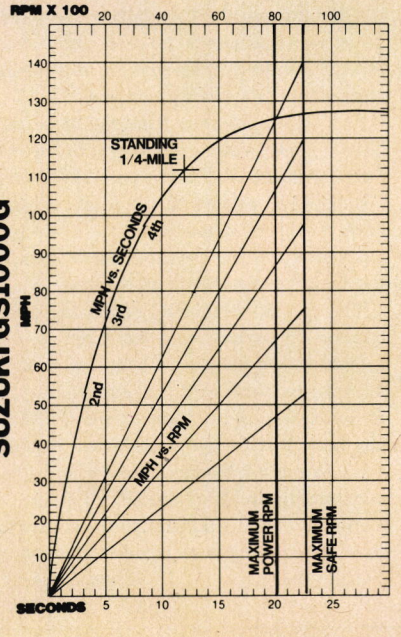

KAWASAKI KZ1000 SHAFT



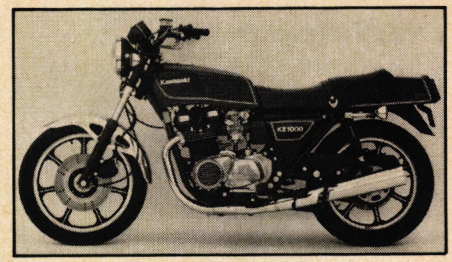

SUZUKI GS1000E




SUZUKI GS1000G




# KAWASAKI KZ1000



**IMPORTER:** Kawasaki Motors Corp.
2009 East Edinger Avenue
Santa Ana, California 92711

**CATEGORY:** street

**SUGGESTED RETAIL PRICE:** $3449

**ENGINE**

Type ..... four-stroke transverse vertical four
Valve arrangement ..... double overhead camshafts
Bore and stroke ..... 70.0mm x 66.0mm
Displacement ..... 1015.9cc
Compression ratio ..... 8.7:1
Carburetion ..... four 28mm Mikuni slide/needle, one accelerator pump
Air filter ..... washable gauze element
Lubrication ..... wet sump
Starting system ..... electric and auxiliary kick-in-neutral
Ignition ..... transistorized breakerless
Charging system ..... 12-volt; alternator, voltage regulator, rectifier

**DRIVETRAIN**

Primary drive type ..... straight-cut gears
Primary drive ratio ..... 1.73:1
Clutch ..... wet, multi-plate
Final drive type ..... #630 chain (¾-in. pitch, ⅜-in. width)
Final drive ratio ..... 15/35: 2.33:1

| Gear | Internal gear ratio | Overall gear ratio | MPH per 1000 RPM |
|---|---|---|---|
| I | 3.17 | 12.79 | 5.9 |
| II | 2.19 | 8.84 | 8.5 |
| III | 1.67 | 6.73 | 11.2 |
| IV | 1.38 | 5.58 | 13.5 |
| V | 1.22 | 4.92 | 15.3 |

**SUSPENSION/WHEEL TRAVEL, IN.**

Front ..... 36mm stanchion tube diameter/5.3 in. (135mm)
Rear ..... 5-way adjustable spring preload/3.3 in. (84mm)

**BRAKES**

Front ..... dual single-action hydraulic calipers, 9.8-in. (250mm) discs
Rear ..... double-action hydraulic caliper, 9.8-in (250mm) disc

**TIRES**

Front ..... 3.25V19 Dunlop Gold Seal F6
Rear ..... 4.00H18 Dunlop Gold Seal K87

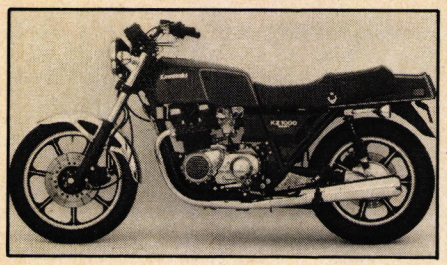
**DIMENSIONS AND CAPACITIES**

Weight ..... 548 lbs. (248.5kg)
Weight distribution ..... 47.7% front, 52.3% rear
Gross vehicle weight rating ..... 945 lbs. (429kg)
Wheelbase ..... 58.5 to 60.0 in. (148.6 to 152.4cm)
Seat height ..... 32.3 in. (820mm)
Handlebar width ..... 31.8 in. (808mm)
Footpeg height ..... 13.3 in. (338mm)
Ground clearance ..... 6.3 in. (160mm), at exhaust crossover tube
Steering head angle ..... 26.0 degrees from vertical
Front wheel trail ..... 3.43 in. (87mm)
Frame ..... tubular mild steel, double front downtubes
Oil capacity ..... 3.9 qt. (3.7l)
Fuel tank ..... steel, 4.3 gal. (16.5l), including 0.8 gal. (3.0l) reserve
Instrumentation ..... speedometer, odometer, tripmeter resettable to zero, tachometer

**PERFORMANCE**

Fuel consumption ..... 37 to 45 mpg (15.7 to 19.1 km/l)
Range, maximum ..... 159 to 194 miles (256 to 312km)
Range, reserve only ..... 30 to 36 miles (48 to 58km)
Speedometer error, 30 mph indicated ..... 29 mph actual
Speedometer error, 60 mph indicated ..... 57 mph actual
Best ¼-mile acceleration ..... 12.12 sec., 111.1 mph (179 kph)
Top speed (calculated) ..... 130 mph (210 kph)
Stopping distance from 30 mph ..... 30 ft. (9.1m)
Stopping distance from 60 mph ..... 131 ft. (41m)

## KAWASAKI KZ1000 SHAFT



**IMPORTER:** Kawasaki Motors Corp.
2009 East Edinger Avenue
Santa Ana, California 92711

**CATEGORY:** street

**SUGGESTED RETAIL PRICE:** $3649

**ENGINE**

Type ..... four-stroke transverse vertical four
Valve arrangement ..... double overhead camshafts
Bore and stroke ..... 70.0mm x 66.0mm
Displacement ..... 1015.9cc
Compression ratio ..... 8.7:1
Carburetion ..... four 28mm Mikuni slide/needle, one accelerator pump
Air filter ..... washable gauze element
Lubrication ..... wet sump
Starting system ..... electric and auxiliary kick-in-neutral
Ignition ..... transistorized breakerless
Charging system ..... 12-volt; alternator, voltage regulator, rectifier

**DRIVETRAIN**

Primary drive type ..... straight-cut gears
Primary drive ratio ..... 1.73:1
Clutch ..... wet, multi-plate
Transmission-to-driveshaft drive ..... spiral-bevel gears
Transmission-to-driveshaft ratio ..... 1.00:1
Driveshaft-to-rear-wheel drive ..... spiral-bevel gears
Driveshaft-to-rear-wheel ratio ..... 2.29:1

| Gear | Internal gear ratio | Overall gear ratio | MPH per 1000 RPM |
|---|---|---|---|
| I | 3.17 | 12.57 | 6.0 |
| II | 2.19 | 8.69 | 8.7 |
| III | 1.67 | 6.62 | 11.4 |
| IV | 1.38 | 5.48 | 13.8 |
| V | 1.22 | 4.83 | 15.6 |

**SUSPENSION/WHEEL TRAVEL, IN.**

Front ..... 40mm stanchion tube diameter/6.8 in. (173mm)
Rear ..... 5-way adjustable spring preload/5.0 in. (127mm)

**BRAKES**

Front ..... dual single-action hydraulic calipers, 9.5-in. (240mm) discs
Rear ..... double-action hydraulic caliper, 9.8-in. (250mm) disc

**TIRES**

Front ..... 3.50V19 Dunlop Gold Seal F8
Rear ..... 4.50V17 Dunlop Gold Seal K100

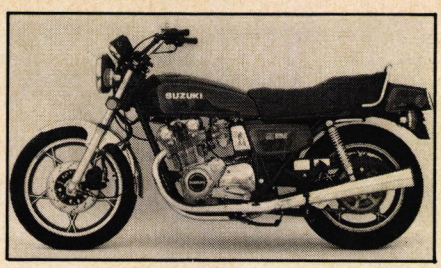
**DIMENSIONS AND CAPACITIES**

Weight ..... 582 lbs. (263.9kg)
Weight distribution ..... 46.6% front, 53.4% rear
Gross vehicle weight rating ..... 1030 lbs. (467kg)
Wheelbase ..... 60.8 in. (154.4cm)
Seat height ..... 32.5 in. (826mm)
Handlebar width ..... 31.3 in. (795mm)
Footpeg height ..... 13.0 in. (330mm)
Ground clearance ..... 6.9 in. (175mm), at exhaust crossover tube
Steering head angle ..... 27.0 degrees from vertical
Front wheel trail ..... 3.9 in. (98mm)
Frame ..... tubular mild steel, double front downtubes
Oil capacity ..... 3.9 qt. (3.7l)
Fuel tank ..... steel, 4.7 gal. (17.8l), including 0.7 gal. (2.8l) reserve
Instrumentation ... speedometer, odometer, tripmeter resettable to zero, tachometer, fuel gauge

**PERFORMANCE**

Fuel consumption ..... 32 to 44 mpg (13.6 to 18.7 km/l)
Range, maximum ..... 150 to 207 miles (241 to 333km)
Range, reserve only ..... 22 to 31 miles (35 to 50km)
Speedometer error, 30 mph indicated ..... 30 mph actual
Speedometer error, 60 mph indicated ..... 59 mph actual
Best ¼-mile acceleration .. 12.19 sec., 112.2 mph (184 kph)
Top speed (calculated) ..... 132 mph (214 kph)
Stopping distance from 30 mph ..... 31 ft. (9.4m)
Stopping distance from 60 mph ..... 129 ft. (39.3m)

## SUZUKI GS1000E



**IMPORTER:** U.S. Suzuki Motor Corp.
13767 Freeway Drive
Santa Fe Springs, California 90670

**CATEGORY:** street

**SUGGESTED RETAIL PRICE:** $3599

**ENGINE**

Type ..... four-stroke transverse vertical four
Valve arrangement ..... double overhead camshafts
Bore and stroke ..... 70.0mm x 64.8mm
Displacement ..... 997.4cc
Compression ratio ..... 9.2:1
Carburetion ..... four Mikuni 34mm constant-velocity
Air filter ..... disposable paper element
Lubrication ..... wet sump
Starting system ..... electric only
Ignition ..... transistorized breakerless
Charging system ..... 12-volt; alternator, voltage regulator, rectifier

**DRIVETRAIN**

Primary drive type ..... straight-cut gears
Primary drive ratio ..... 1.775:1
Clutch ..... wet, multi-plate
Final drive type ..... #630 chain (¾-in. pitch, ⅜-in. width)
Final drive ratio ..... 15/42: 2.80:1

| Gear | Internal gear ratio | Overall gear ratio | MPH per 1000 RPM |
|---|---|---|---|
| I | 2.50 | 12.42 | 6.1 |
| II | 1.78 | 8.83 | 8.5 |
| III | 1.38 | 6.86 | 11.0 |
| IV | 1.13 | 5.59 | 13.5 |
| V | 0.96 | 4.77 | 15.8 |

**SUSPENSION/WHEEL TRAVEL, IN.**

Front ..... air-spring, 37mm stanchion tube diameter/5.8 in. (147mm)
Rear ..... 5-way adjustable spring preload, 4-way adjustable rebound damping/3.3 in. (84mm)

**BRAKES**

Front ..... dual single-action hydraulic calipers, 10.8-in. (275mm) discs
Rear ..... double-action hydraulic caliper, 10.8-in. (275mm) disc

**TIRES**

Front ..... 3.50V19 IRC Grand High Speed GS-11 AW
Rear ..... 4.50V17 IRC Grand High Speed GS-11 AW

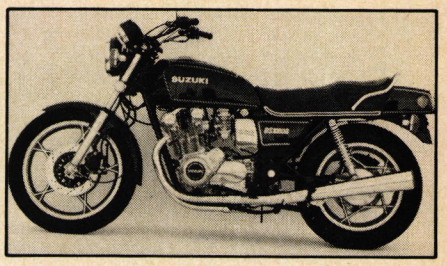
**DIMENSIONS AND CAPACITIES**

Weight ..... 528 lbs. (240kg)
Weight distribution ..... 46.4% front, 53.6% rear
Gross vehicle weight rating ..... 924 lbs. (419kg)
Wheelbase ..... 59.7 to 60.7 in. (151.6 to 154.2cm)
Seat height ..... 33.0 in. (809mm)
Handlebar width ..... 31.3 in. (767mm)
Footpeg height ..... 13.1 in. (321mm)
Ground clearance ..... 6.3 in. (154mm), at exhaust header
Steering head angle ..... 27.0 degrees from vertical
Front wheel trail ..... 4.57 in. (116mm)
Frame ..... tubular mild steel, double front downtubes
Oil capacity ..... 3.6 qt. (3.4l)
Fuel tank ..... steel, 5.0 gal. (19.0l), no reserve
Instrumentation ... speedometer, odometer, tripmeter resettable to zero, tachometer, fuel gauge

**PERFORMANCE**

Fuel consumption ..... 32 to 50 mpg (13.6 to 21.3 km/l)
Range, maximum ..... 176 to 275 miles (283 to 442km)
Speedometer error, 30 mph indicated ..... 30 mph actual
Speedometer error, 60 mph indicated ..... 59 mph actual
Best ¼-mile acceleration .... 11.98 sec., 113.9 mph (183 kph)
Top speed (calculated) ..... 136 mph (219 kph)
Stopping distance from 30 mph ..... 32 ft. (9.7m)
Stopping distance from 60 mph ..... 137 ft. (41.8m)

## SUZUKI GS1000G



**IMPORTER:** Suzuki Motor Corp.
13767 Freeway Drive
Sante Fe Springs, California 90670

**CATEGORY:** street

**SUGGESTED RETAIL PRICE:** $3699

**ENGINE**

Type ..... four-stroke transverse vertical four
Valve arrangement ..... double overhead camshafts
Bore and stroke ..... 70.0mm x 64.8mm
Displacement ..... 997.4cc
Compression ratio ..... 9.2:1
Carburetion ..... four 34mm Mikuni constant-velocity
Air filter ..... washable oiled foam element
Lubrication ..... wet sump
Starting system ..... electric only
Ignition ..... transistorized breakerless
Charging system ..... 12 volt; alternator, voltage regulator, rectifier

**DRIVETRAIN**

Primary drive type ..... straight-cut gears
Primary drive ratio ..... 1.775:1
Clutch ..... wet, multi-plate
Transmission-to-driveshaft drive ..... spiral-bevel gears
Transmission-to-driveshaft ratio ..... 0.94:1
Driveshaft-to-rear-wheel-drive ..... spiral-bevel gears
Driveshaft-to-rear-wheel ratio ..... 3.09:1

| Gear | Internal gear ratio | Overall gear ratio | MPH per 1000 RPM |
|---|---|---|---|
| I | 2.50 | 12.90 | 5.9 |
| II | 1.78 | 9.19 | 8.3 |
| III | 1.38 | 7.12 | 10.7 |
| IV | 1.13 | 5.83 | 13.1 |
| V | 0.96 | 4.95 | 15.4 |

**SUSPENSION/WHEEL TRAVEL, IN.**

Front ..... air-spring, 37mm stanchion tube diameter / 5.3 in (135mm)
Rear ..... 5-way adjustable spring preload, 4-way adjustable rebound damping / 4.5 in. (114mm)

**BRAKES**

Front ..... dual single-action hydraulic calipers, 10.8-in. (275mm) discs
Rear ..... double-action hydraulic caliper, 10.8-in. (275mm) discs

**TIRES**

Front ..... 3.50V19 IRC Grand High Speed GS-11-AW
Rear ..... 4.50V17 IRC Grand High Speed GS-11-AW

**DIMENSIONS AND CAPACITIES**

Weight ..... 564 lbs. (256kg)
Weight distribution ..... 45.7% front, 54.3% rear
Gross vehicle weight rating ..... 1112 lbs. (504kg)
Wheelbase ..... 59.8 in. (151.8cm)
Seat height ..... 32.3 in. (820mm)
Handleba: width ..... 30.5 in. (775mm)
Footpeg height ..... 13.0 in. (330mm)
Ground clearance ..... 6.5 in. (165mm), at exhaust header
Steering head angle ..... 27.5 degrees from vertical
Front wheel trail ..... 4.4 in. (112mm)
Frame ..... tubular mild steel, double front downtubes
Oil capacity ..... 3.2 qt. (3.0l)
Fuel tank ..... steel, 5.8 gal. (21.8l), including 1.1 gal. (4.1l) reserve
Instrumentation ..... speedometer, odometer, tripmeter resettable to zero, tachometer, fuel gauge, gear indicator

**PERFORMANCE**

Fuel consumption ..... 30 to 51 mpg (12.6 to 21.7 km/l)
Range, maximum ..... 172 to 296 miles (276 to 476 km)
Range, reserve only ..... 32.7 to 56.2 miles (53 to 90 km)
Speedometer error, 30 mph indicated ..... 30 mph actual
Speedometer error, 60 mph indicated ..... 62 mph actual
Best ¼-mile acceleration .... 12.34 sec., 110.8 mph (178 kph)
Top speed (calculated) ..... 139 mph (223 kph)
Stopping distance from 30 mph ..... 34 ft. (10.4 m)
Stopping distance from 60 mph ..... 141 ft. (42.9 m)

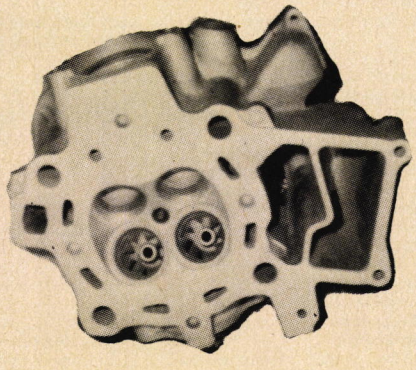
# Accelerate With The TISON Power!

### What It Is And How It Works

An important modern concept of engine technology is to improve combustion by creating a more efficient air-fuel mixture. The Japanese automotive and motorcycle industries have proven that generating swirls in the air-fuel mixture increases fuel economy and horsepower, while decreasing polluting exhausts.

Sekon International has found that the best mixing procedure is to swirl the air-fuel mixture partially in different directions. The Swarup, which was introduced to the U.S. market several months ago, utilizes this procedure by generating swirls in the inlet manifold.

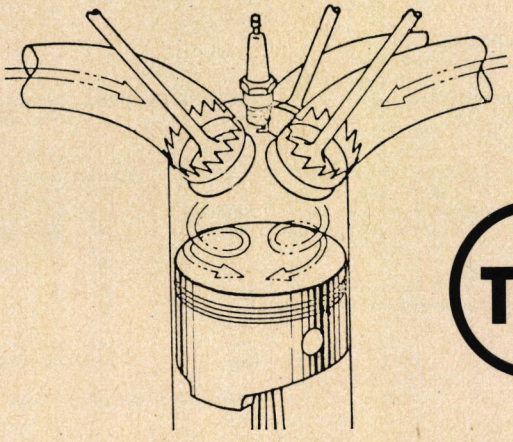
Another development from Sekon, the TISON Engine (Twin-Inlet Swirl Ong Engine), generates the same multiple swirls in the combustion chamber, using two static-swirl mixers placed under the valve sheets of a twin-inlet valve engine. Each static mixer will generate a single swirl. Both mixers combined form twin-inlet swirls rotating in opposite directions. Under the high temperature and high pressure conditions in the combustion chamber, the multiple swirls will produce a highly vaporized air-fuel mixture. The multiple swirls, rotating across the spark plug, also cause the transfer of flame to rapidly burn the air-fuel mixture, forming high and smooth power output.



## *TISON—A New Decade*

Sekon International announces its success in testing its first experimental TISON Engine using a Honda CX 500. With an increase of 20-30% in power, the fuel economy increases 20-30%. Overall performance also significantly improves.

The Japanese have proven that the stronger a turbulence is generated in the combustion chamber, the more the performance is improved. The multiple swirl TISON Engine, with its arrangement of static fins, is presently the best designed engine for increasing the efficiency of engines.



Patent Pending

TISON

Sekon International can transform any four-stroke engine into a TISON Engine. Please consult your dealer and contact us before you send in your cylinder head. All racers are welcome to share or compete against the TISON power.

*"SEKON, Second to None!"*

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*Do you know that while a smooth bore carburetor and the SWARUP both increase the power of your bike, a smooth bore carburetor increases fuel consumption and the SWARUP decreases it?*

*Do you know that while using the Swarup, if you step up the main jet as a smooth bore carburetor does, not only will you have more power than a smooth bore carburetor, but you still will be consuming the same fuel as the stock carb?*

*Do you know that the smooth bore carburetor costs nearly $300 for a four cylinder motorcycle, while the SWARUP is less than one quarter of the price? You figure it out.*

*Do you know that we are selling more SWARUPs than smooth bore carburetors in the Japanese after market? (By the way, you are aware of who makes the bikes?)*

*We do not disagree with the function of a smooth bore carburetor, we've just found a better and easier way!*

## A Glimpse of the Future

SWARUP®

# We Challenge Smooth Bore Carburetors for Power!

*The SWARUP is the best cost-performance device on the market today and is the only device which is capable of burning a wide range of air-fuel mixture in your engine. This gives you a wider play between power and fuel consumption!*

*By simple installation of the SWARUP, you get an increase of more than 10% in power with better fuel economy. A further increase in power can be made by stepping up the main jet. If you step down the main jet, a leaner air-fuel mixture for better fuel economy can be obtained while maintaining stock power. Again, the SWARUP is the only device to give you this wide range burning.*

*When you install a high cam shaft, a big bore, or a low resistant air-filter, usually you will have a hard time getting a good setting of your carburetor. Because of the excellent performance of SWARUP, a smooth setting will be very simple, even if you are not a professional in installing high performance products.*

*Finally, the E.P.A. standard for all 1980 models will decrease their performance. The SWARUP can burn an even leaner air-fuel mixture than that required standard. That means that it can increase the performance for the latest and future models or even any racer that you build. The SWARUP — A Glimpse of the Future!*

Single Carb . . . $28.95
Twin Carb . . . . $38.95
Triple Carb . . . $58.95
Four Carb . . . . $68.95
Six Carb . . . . . $88.95

*"SEKON, Second to None!"*

SEKON

## *RIDING IMPRESSION:*

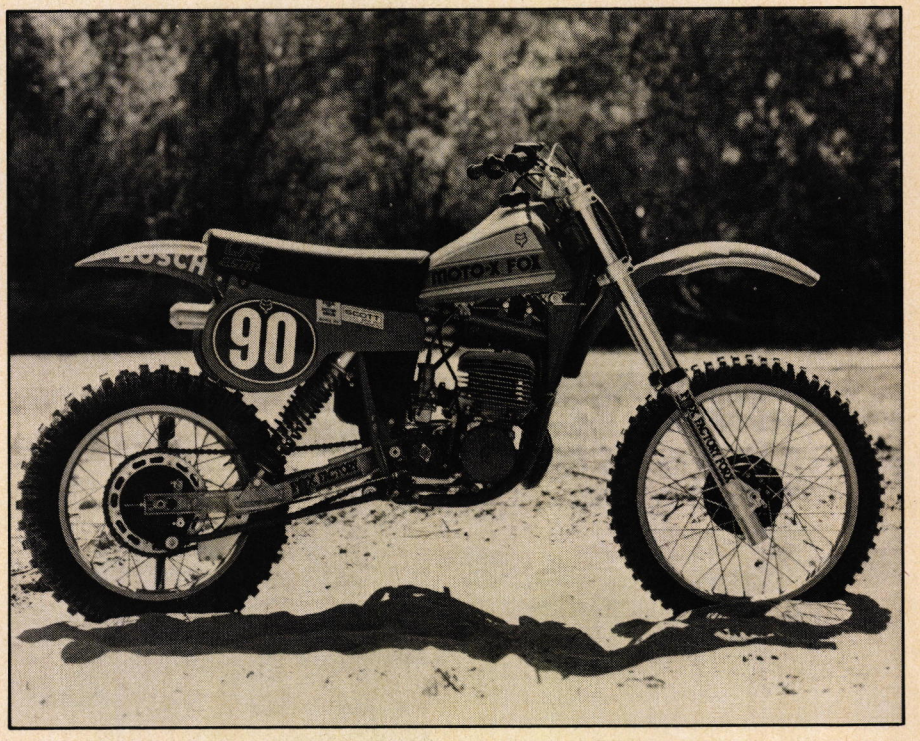
# Moto-X Fox Honda CR250R

*Only major motocross surgery can cure the 1980 Red Rocket.*

BY DAVID DEWHURST

• Many companies have built up booming businesses correcting the faults of production motocross bikes and a lot of them will be making healthy profits correcting the ills of the new Honda CR250R. But even though a lot of firms can supply you with something to improve your 1980 Red Rocket, few can provide as complete an answer to its problems as Moto-X Fox. Like a giant motocross supermarket, Fox furnishes just about everything you need to turn your also-ran CR250R into a trophy-seeking missile. I've ridden a Honda equipped with Fox's hardware that proves it.

The transformation from mediocre to missle isn't cheap, however, because the Honda needs a long shopping-list of parts to make it competitive. The Honda fork suffers from excessive spring preload and too little damping. The same holds true for the rear shocks, and an overall spring rate that's far too stiff compounds the problem. The result is suspension that kicks like a mule on rough tracks, compromising the straight-line stability of a chassis with a flimsy swingarm and a fairly short wheelbase to begin with.




**FOX FACTORY HONDA CR250R**

**Manufacturer:** Fox Factory
520 McGlincy Lane
Campbell, California 95008

| | |
|---|---|
| Category | motocross |
| Suggested retail price | $2827 (as tested) |
| | Stock Honda $1798, Fox Factory Forx $459, Fox Factory Shox $275, Fox Factory Swingarm $295 |
| Engine type | two-stroke vertical single |
| Port arrangement | one reed-valve controlled intake, four transfers, one booster transfer, one exhaust |
| Bore and stroke | 70.0mm x 64.4mm |
| Displacement | 247.8cc |
| Carburetion | one 36mm Keihin slide/needle |
| Gearbox | 5-speed |
| Final drive ratio | 14/49 3.50:1 |
| Front fork/wheel travel | Fox Factory Forx air-spring 44mm stanchion tube diameter/12.0 in. (304mm) |
| Rear shocks/wheel travel | Fox Factory Shox 5-way adjustable spring preload/12.0 in. (304mm) |

A half-hearted cure for all these problems would be simply to adapt more suitable springs and alter fork damping with heavier oil. But even with these corrections in place the Honda still has significant problems. The real answer lies in expensive surgery. Moto-X Fox's medical answer comes in the form of a complete fork assembly, a set of remote-reservoir shocks and a massive aluminum swingarm, the same pieces fitted to Moto-X Fox's Hondas on the AMA National motocross circuit. Like any operation, this one is expensive—a complete bill of health will run to just over $1000.

If your major medical insurance policy does not cover your motocross bike, you may have to buy these pieces one at a time. If so, you should purchase the shocks first, because the rear suspension is the CR's worst feature. With Fox's brand-new shocks in place, the Honda feels transformed. Thanks to a multitude of progressively wound springs to choose from, you can find just the right spring rate for your particular riding style. The first time you ride a CR250R with a rear wheel that actually moves through a complete arc of 11.7 inches for a change, you'll be amazed at how good the bike really can be. With a short progressively wound spring controlling small bumps and a main progressively wound spring handling the large stuff, the Honda's rear wheel finally reacts to every small bump and hole and still has enough left for The Big One.

The right springs are only half the answer to the Red Rocket's rear suspension, of course, for the superior damping characteristics of the Fox shocks are equally important. Like the most modern shocks these days, including Ohlins and the Yamaha monoshock, the Fox unit employs a stack of washers of varying diameters and thicknesses to cover the damping valve within the shock body. As oil is pumped through the damping valve with each suspension stroke, the washers are forced off their seat. By changing the size and thickness of the washers, the rate at which they float off their seat can be changed, altering damping. Unlike other shocks, though, the Fox unit has a special low-speed damping valve that allows oil to flow at very low shock speeds when the main valve cannot respond, insuring that the rear shocks are compliant yet controlled even over small bumps. The valve itself is simply a carburetor-style main jet fitted to the end of the damper rod, providing a low-speed bypass circuit for the shock oil.

Each of these valves in the Fox shocks can be adjusted through a wide range, permitting the knowledgeable rider to dial in the Honda's rear end to perfection. I tried various settings during the day that I rode the Fox-equipped Honda and was able to make the rear end perfect for the track's conditions. It was compliant over the smallest ripples and yet still firm enough

to absorb the big jumps.

If the thought of making all these changes worries you, Fox can send you the shocks set to your specifications and ready for action. The guys at Fox will adjust spring and damping rates to your weight and riding ability, and what's more, the settings will be close to perfect. Certainly they'll be close enough for you to notice how flexible the stock Honda swingarm is.

Fox has a solution to that problem, too, in the form of a box-section aluminum swingarm that is both stronger and longer than the stock piece. It's beautifully constructed, built from high-strength aluminum and then heat-treated for maximum toughness. It's also two pounds lighter than the stock piece and one inch longer. Better yet, it works. You'll really appreciate the bike's improved stability thanks to a flex-free swingarm and a longer wheelbase. Because the stocker lacks both these things, it's twitchy in a straight line. But in the sections of the track where the plain-vanilla CR fails to hold a line in the corner, the Fox bike is genuinely excellent. It slides well, but more importantly, it likes to cut an inside line, too.

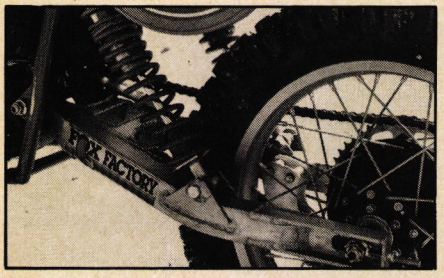
When I saw the massive 44mm fork tubes of the Fox fork and the pile of optional springs, I knew that the problems of the Red Rocket's front end were solved. These are the world's largest stanchion tubes for motocross bikes, and with 5.5 inches of overlap between fork tubes and sliders, the last word in rigidity. The fork was set up for 12 inches of travel, but installing a shorter negative spring (anti-topping spring) to allow increased extension can lengthen travel to 13 inches while affording 4.5 inches of overlap. A pair of massive triple clamps aid front-end rigidity, and once all the Fox pieces are installed, it's virtually impossible to tweak the bike's front end out of line. That means a needed dose of steering precision for the CR, which when combined with a wide range of damping and springing adjustments allows you to cross the roughest track without fear for your life.

The Fox fork can be fitted with a selection of three valves to control rebound damping, two negative springs and four straight-wound main springs. Once you add Fox's air caps, you have what ammounts to an unlimited amount of adjustment for the fork. The result is one of the smoothest front-end suspension actions you can buy. The only problem in the front end left unsolved is the bike's peculiar tendency to shake its handlebar while you're traversing rough ground at high speed. We thought this problem was caused by the stock fork's mismatched spring and damping rates, but apparently it's rooted in some strange combination of frame geometry and weight distribution.

You won't have to be concerned about fabricating a special brake adapter to fit the Fox fork because each slider is cast with the correct mounting block. But because the fork compresses farther than the stocker's, the front wheel gets too close to the exhaust pipe. To regain the proper clearance, you'll have to cut a quarter-inch from the exhaust flange and spigot.

Other than this little piece of work, the Moto-Fox suspension package is a simple bolt-on affair. And once it's all screwed in place, it will transform your 1980 Honda into a real race winner. You may still have to ride hard to beat a stock Yamaha YZ250G, but at least you'll no longer have to suffer the indignity of being lapped in every moto.

This surgery on the CR250R may not be a cheap operation, but Fox has proved more than once that it can solve problems overlooked by the major manufacturers and create a world-class motocross bike in the bargain. Though world-class still doesn't define this revitalized Honda because of problems unrelated to suspension, at least this bike is built to the exacting specifications of Fox's race machines on the AMA National circuit. That means Moto-X Fox's $3.00 mail-order catalog lets you get a lot closer to a real works bike than any other manufacturer will permit. •




**Armed with a better suspension**

*Outfoxing the major manufacturers.*

**Strong, long legs**

*Proving bigger really is better.*

# Behind every World Champion.

True. Suzuki has won every 125 World Championship in motocross.

Some record, huh?

With that kind of breeding, it's no wonder the RM-125 is king of its class.

This year, it comes with the most finely tuned suspension this side of works. New oil refillable gas/oil shocks have four damping adjustments. Non-flex swingarm is extruded aluminum. And the front air forks offer nearly a foot of travel.

Powerband is wider and stronger, too. Thanks to a host of subtle refinements.

Also trick: Full floating rear brake is now operated with a straight cable for better braking control. And this year's bigger chain now rolls through a new works roller-type chain guide.

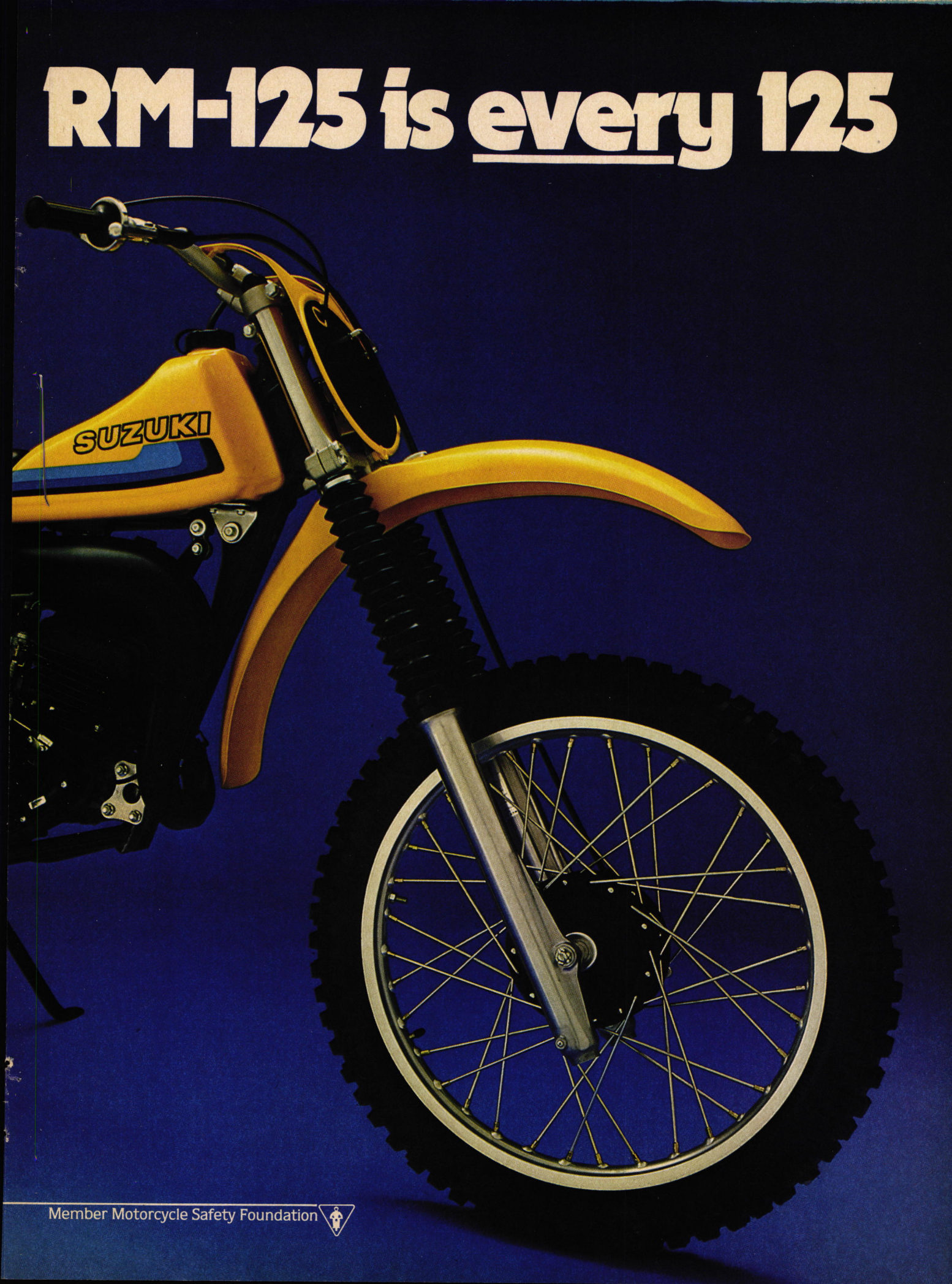
In short, it's a winner. Again.

SUZUKI 1980

## The Performer.

Ride with care. Always wear a helmet and protective apparel. Ride only where authorized and respect the environment.

# RM-125 is every 125




Member Motorcycle Safety Foundation

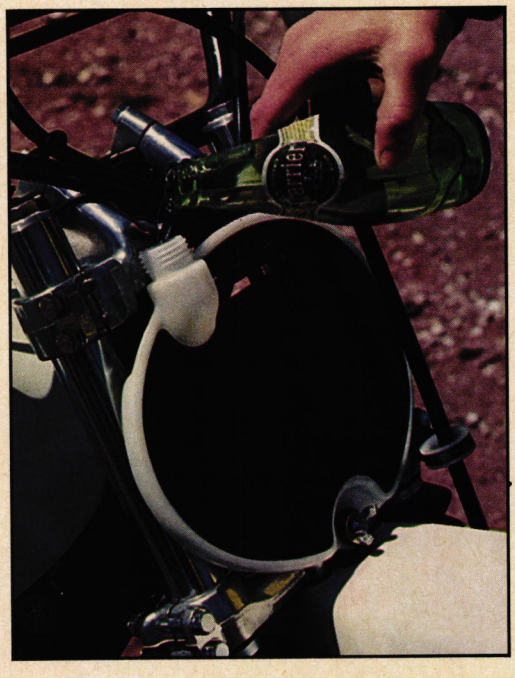
# Yamaha TT250G

*A low-calorie, lightweight playbike that's fat on fun.*

BY DAIN GINGERELLI

Don't let the TT250 fool you. It might have a Monoshock rear suspension and a leading-axle fork like its YZ cousins, but it was never intended for the motocross track. Tucked behind the combination number plate and refreshment canteen are 242 pounds of fun, because the TT250 is a playduro for winning smiles, not trophies.

The secret to winning those first-place grins is a package that contains just the right balance of horsepower, suspension travel and weight for performing tricks in the dirt. So when you screw on the throttle you don't have to worry about an earthshaking amount of torque quickly consuming a small amount of suspension travel and catapulting the whole heavyweight business into a gut-shaker of a crash—the usual sequence of events with 500cc fun-thumpers. The TT250 is one playbike that delivers all of a four-stroke dirt bike's virtues with few of the drawbacks. So after a full day of sliding along dusty fireroads, dodging snags or laying knobby tracks on the wide-open spaces, you're always a winner, even if you don't come home with a trophy. All that remains is to load the TT in the back of the pickup, then stop at the pizza parlor to spend a couple of hours of bench-racing with your dirt pals.



It's clear that the TT250 isn't a race bike as soon as you swing a leg over it and take to the saddle. No motocross bike sits low enough these days to allow you to plant both feet solidly on the ground, but the TT does. In fact, its seat height measures slightly more than 33 inches, about the same as on many street bikes. And what you gain in seat height isn't lost to ground clearance, either. Slightly less than a foot of daylight shines beneath the engine's skidplate, elevating the TT250 to nearly motocross standards in this respect. It's one of the best compromises of low seat height and adequate ground clearance ever made on a playduro.

Just as low seat height is one of the measures of a good playbike, so too, low overall weight plays an important role. Yamaha has met the challenge without the compromises apparent in the Honda XR250, Suzuki DR370 and Suzuki DS-series. The Yamaha weighs less than 250 pounds dry partially because unlike other four-stroke playbikes, plastic has been substituted for metal wherever possible. The gas tank, number plates, side panels, fenders, seat base and countershaft sprocket cover are all plastic, evidence of a concerted weight-reduction program that makes the TT250 easy to fling around corners and over jumps. As a result, the TT250 is one of those rare motorcycles that lets you spend your off-road time learning how to ride the *dirt*, instead of learning how to ride a dirt *bike*.

The TT250 might be a lightweight motorcycle, but the heavyweight punch of the 250cc four-stroke engine is what really makes the package work. It cranks out about a horsepower or so more than the Honda, enough to help this little white tornado scoot across the dirt quick enough to produce a respectable rooster-tail. Better yet, though, the Yamaha engine is torquey, producing good power with far fewer rpm than Honda's engine. There's plenty of power available for getting out of trouble at low rpm. That's the way a playbike four-stroke engine should be—and the way that so few are.

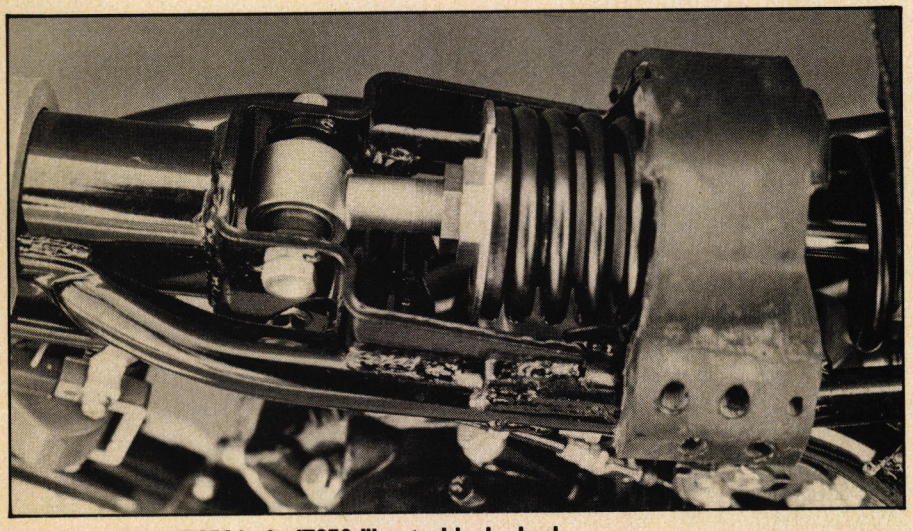
Although the extra torque is present at the rear wheel, the single-cylinder engine operates smoothly, thanks to a single gear-driven counterbalancer. Yamaha chose one vibration damper, as opposed to two normally used on four-stroke singles, to keep total engine weight low. And besides, claim project engineers, one was all this engine needed.

Most of the technology inside the TT's engine is relatively conventional. A 30mm Mikuni slide/needle carburetor without an accelerator pump feeds a single intake valve. The intake and exhaust valves are operated by a single overhead camshaft that rides on needle bearings for long life. In an effort to keep engine height low, the dimensions of the cylinder are extremely oversquare, 75.0mm by 56.5mm. Other features of the engine keep height down as well. For one, the wet sump is shallow (Yamaha decided against a dry-sump configuration like on the TT500 because the necessary oil tank would raise the bike's center of gravity). Another aspect of the engine that reduces the bike's height is the fact that it's used as a stress-carrying element of the frame, so there's no need for frame tubes underneath the crankcases.

The reason for this emphasis on low engine height, of course, is the presence of Yamaha's Monoshock rear suspension strategy. A short IT-style Monoshock connects the mild steel tubing of the swingarm to the mild steel frame. It has a body made of steel like the IT250 shock, too, rather than the sophisticated aluminum now used on the YZ racers. The mono's dual-rate spring has a preload adjustment at the top, which means you must remove the gas tank to get at the adjuster nut. Also, the

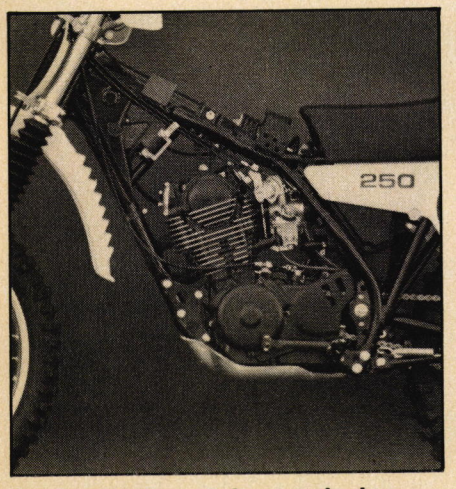
*Continued*

PHOTOGRAPHY: DAVID DEWHURST



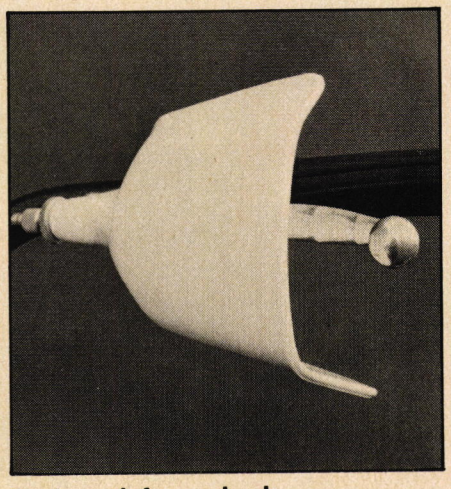
**Backbone of the TT250 is the IT250-like steel-body shock**

*However, there is no click-adjustment for shock damping rates.*



**Anatomy of a four-stroke monoshocker**

*More than a stroke of luck.*



**Brush guards for your hands**

*So your gloves stay soft and fresh.*

damping rates aren't adjustable, though the nitrogen pressure of the de Carbon-type shock body can be changed to alter damping rates slightly.

Aside from the special effects required in the engine-height area, the airbox also is the scene of numerous alterations and compromises to make life possible for a Monoshock above a four-stroke engine. Finding a place for it was no easy task, since the shock lives right behind the carburetor. Yamaha engineers therefore wrapped the airbox around the shock in a complicated and restrictive shape. And to reduce costs, the same airbox shape is common to both the street-legal XT250 and the white tornado, which means the baffles used to quiet intake noise on the XT also strangle the TT's horsepower production, although a different inlet for the TT-style airbox attempts to solve the problem.

Simplicity was the keynote in the kickstarter, for Yamaha didn't want to force the TT250's riders to be seasoned thumper freaks before they could start the single while stranded on the side of a rock-strewn hill. Complexity held the answer, though, for the TT250's kickstarter incorporates an automatic compression release. As the kick lever swings down, a cable-operated compression release cracks the exhaust valve open for about a quarter of the piston's stroke—just long enough for you to put sufficient momentum into the crankshaft to fire the engine without having to leg it with the strength of a rugby player.

We encountered a serious problem with the compression release, though, because it persistantly malfunctioned. Many times it held the exhaust valve open so the engine wouldn't run no matter how many times you kicked it. The culprit was the bell crank down by the kickstarter, which kept binding in its hole in the primary case. The same problem appeared with our XT test bike and, so Yamaha says, with virtually every early XT and TT250. A service bulletin has been issued to correct the problem and Yamaha has since made improvements. We just disconnected the cable to the compression release and had no trouble starting the engine whatsoever, demonstrating that the device might be fine for the novice rider, but it's really not a necessity.

Once into life, the TT engine settles into a lumpy idle, quietly popping away. Don't sneer at the mild-mannered exhaust note though, despite the fact that sometimes the sound of the suspension working will drown it out. There's plenty of eager acceleration available from this 250cc pop gun, thanks to its flat torque curve. So power is

delivered to the rear wheel in gentle, predictable, progressive doses. You're never surprised by a rear wheel that suddenly breaks traction, as with pipey two-strokes and some four-stroke cannons. The Yamaha 250's powerband is calibrated to keep the rear wheel hooked up. Traction is its byword. Sure, it has many of the characteristics of a 500cc four-stroke single—you can fool the carburetor and make the engine die with an erratic wrist and there's a definite punch behind every power stroke—but they're in half-scale proportions. As a result, you've got just the right amount of power to keep you moving in the slow stuff and still scale the incline to the top of Thumper Hill.

Once you're at the top of the hill, though, you probably won't look forward to coming back down. Not because the view is so spectacular, but because the brakes are so weak. The front lever in particular feels spongy, and there's little reaction until you've grabbed a big handful. Maybe because Yamaha figures the compression of a four-stroke engine will furnish lots of whoa-power, it's equipped the TT with brakes of the slow-you-down variety more appropriate for motocross bikes than the stop-you brakes that you need on the play-trail.

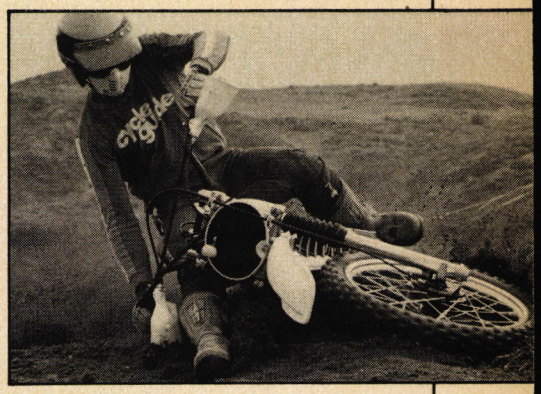
The suspension can be just as soft and spongy, too, because it's built for the relaxed pace of playriding, helping you ride over just about anything that can be conquered while you're parked in the saddle—as long as your speed is not too fast. Spring and damping rates are as well-balanced as the rest of the motorcycle—just keep in mind that the TT isn't for aggressive dirt riders. Comfort, not speed, is the prime directive here.

This is not to say that the TT250 is fit only for plonking around camp, though. Actually, it takes to fireroads with relish because it's extremely stable on well-graded dirt and gravel. The fairly high center of gravity due to the Monoshock gives the bike slow, predictable reactions that help it track straight. As a result, the TT is as slick as white lightning on logging roads, farm roads or any piece of winding level ground. You'll feel like a flattracker, for it's easy to induce a full-click slide just by shutting off and pitching the bike sideways. Even riders without an AMA Expert license can have slideways fun on this bike.

With so much weight high in the chassis, Yamaha has tried to adapt the bike for tight stuff with fairly quick steering geometry like a motocross bike. But the engineers were less successful here. Sure, the TT steers precisely and the high CG keeps the bike from feeling twitchy at speed, but

## Getting Serious With the TT

GEORGE WEGNER



• The TT250 isn't just a playbike. For fans of four-strokes and manufacturers of accessories for dirt bikes, it's the best news from Japan since Yamaha's TT500 in 1976. Sure, it's intended to entertain the casual cow-trailer, but the bike is so good it's going to find itself in more serious hands as well. As a result, the TT250 looks set to take over from its bigger brother as the most modified and tweaked-upon dirt bike around.

For good reason, too, because within the limits imposed by soft suspension and mild engine tuning, this Yamaha 250 shows more potential for speed than any other four-stroke bike. A strong motor with plenty of untapped horsepower is one reason, but what makes the difference is the fact that the bike is compact and light for a four-stroke. Even in stock form, this quarter-liter thumper could hold its own in enduro competition, not because of any single brilliant feature, but due to sound overall design. It won't bury a Husky 390 on fire roads or smoke a KTM in the tight stuff, but because it has enough of the right things—enough horsepower, enough suspension, enough competition bike-caliber handling—it can keep you within your enduro hour and possibly help you stay on your minute. Only the new generation of enduro bikes can really humble the TT250 on the trail.

Help is on the way to make the TT250 an even more serious competitor, thanks to a cavalry charge of high-tech artillery from the accessory companies and even Yamaha itself. Ed Scheidler of Yamaha's competition services has worked with the bike and discovered that a Monoshock spring from the YZ250F with a free length of 304mm gives the TT's rear suspension the racer's edge. Similarly, a fork spring from an IT175G in each fork leg plus 15cc more stock-weight oil will keep the fork from crashing to full compression at every bump. You can also use air caps from the YZ125D and pressurize the fork legs to 4.3 psi for extra help.

The accessory companies, meanwhile, are at the ready with lots of hardware. Pro-Tec offers air caps and an aluminum swingarm, while White Brothers offers the same plus a conversion for the fork that delivers 10 inches of travel. Yet even though the suspension parts are being manufactured, it's the engine that fascinates the aftermarket guys. White Brothers has discovered through dyno work that dispensing with the airbox adds two horsepower while using a replacement exhaust pipe adds two more. Poweroll and Pro-Tec also offer a pipe for the bike, and Pro-Tec points out that its replacement pipe saves 13 pounds over the stock piece.

All the other usual horsepower mods are waiting in the wings for the TT250 as well, including 34mm Mikuni or Dell 'Orto carburetors and radical cams. The usual route to large herds of ponies, though, is through big-bore kits. Because the TT250 engine is so oversquare, this strategy promises problems in the form of acute rod angles and high piston speeds, but Pro-Tec, White Brothers and Poweroll each market big-bore kits. Pro-Tec has a 350cc conversion, while White Brothers' 270cc bore kit probably represents a less radical solution to the problem.

Whatever displacement they happen to be, however, just about every TT250 that turns a wheel will have at least one thing in common: They will be modified in one way or another. That's because the TT250 holds far more potential for speed than the TT500 thanks to good handling and light weight, even though Yamaha has set the bike's limits fairly low. By setting your own limits with pieces from Yamaha and the aftermarket companies, you'll find that the TT250 is one of the most serious four-stroke dirt bikes in history.

*—David Dewhurst*

*Continued*

DAVID CLARK

you'll feel clumsy dodging cowpies on the tight trails simply because the high center of gravity is the predominate factor in the turns. With proper throttle control you can keep the bike upright and scoot the rear wheel around a hairpin with a blast of power, but otherwise you'll want to use a foot to balance. Of course, the TT250's low seat height helps you put your foot down effectively in the tight corners—it's only motocross-style seat heights that have made us forget how handy a dab can be in the right circumstances.

You'll notice that the number plate actually holds about a quart of liquid refreshment so you can pack your favorite thrist quencher when you're heading for good times aboard the TT250. But you're not going to want to waste precious time chug-a-lugging by the side of the trail. You'll want to keep the 250cc single humming over all kinds of terrain, because this bike is made for grinning. In fact, it's the best of the 250cc four-stroke dirt bikes. Sure, the KLX has a sophisticated chassis, but the engine's low calorie count keeps you from having as much fun as you'd like. The XR250, on the other hand, has too much weight, not enough power and a grabby clutch that makes trail riding a nightmare. The balance of motor and chassis makes the Yamaha TT250 the best in its class, virtually unsurpassed as a fun-chaser.

The TT250 gives you the highest grins-per-gallon rating of any four-stroke dirt bike you can buy. Sure, popping wheelies, jumping logs, dodging pucker bushes and strafing jeep trails may not seem heroic next to the kind of weekend riding that Mike Bell does on his Yamaha racer, but his fun lasts only 40 minutes. And it takes him hours of training each day just so he can compete in two motos on Sunday. Your riding schedule is just the opposite—you'll spend about an hour prepping for a whole weekend of fun. And after a day or two of cutting through mud puddles, planing over the sand or slaloming through the trees, you'll feel like a winner, too. Because there are no losers on TT250s. •

## Ride Review

• Those level-eyed, Deadly Serious Dirt Guys might scoff at the TT250's non-motocross performance, but not me. I've sat by too often watching Taylor and Dewhurst performing two-wheeled dirt tricks to miss out on a good thing when I see it. Here, finally, is a device for the sole purpose of making fun-lovers like myself look good in the dirt. What do you want? Wheelies? Powerslides? Or maybe just a fast barrel race through the pucker bushes? Whatever, with the TT you just set the dial for the appropriate stunt and wait for it to happen.

But they don't understand. They keep talking about Winning and something called a Trophy-Or-Die. Even now they're planning to pump up the engine and suspension to make a Real Dirt Bike out of the TT. Fat chance. They'll have to pry me out of the saddle first. *—Larry Works*

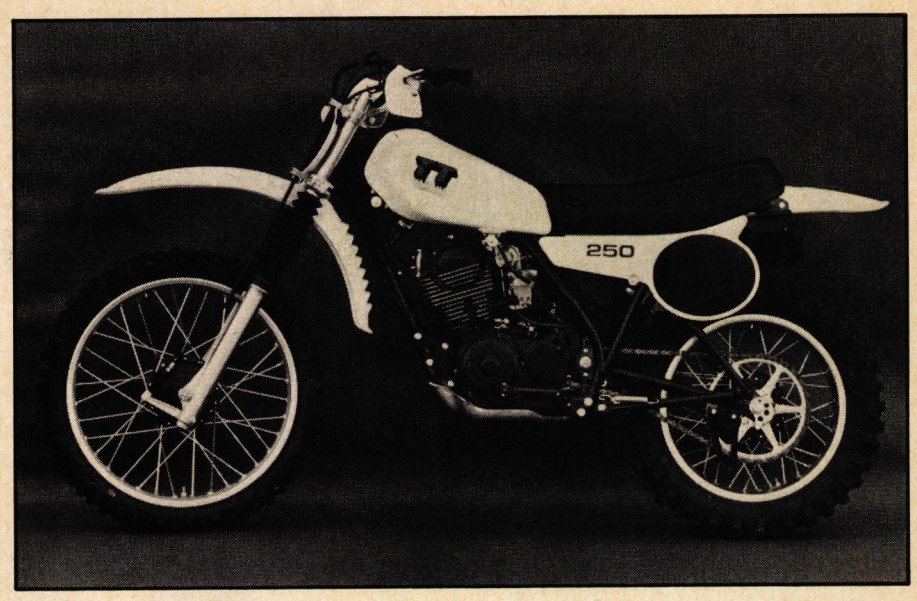
• Half of my ideal 250cc playbike lives here—the engine half. The TT's counterbalanced four-stroke single is smoother, torquier and light-years faster than the boat anchor that propels Kawasaki's sweet-handling KLX250, and it's just as smooth and a bit peppier than Honda's XR250 motor. But for me, the chassis comes up considerably short of acceptable. I like to go fast on the rough and difficult trails, not on the smooth and easy ones, but doing so on the TT bottoms the suspension so loudly and frequently that the clanging of fork and Monoshock often drowns out the exhaust.

That's why I'd love to yank the TT's terrific engine from its low-tech location and splice it into a KLX250 chassis. With a best-meets-best combination like that, I'd have the four-stroke 250 funbike that everyone has promised but none so far have delivered. *—Paul Dean*

• Despite the TT's YZish styling, it is more for the rider whose mental ignition is turned on by the thought of miles of twisty trails and megatons of wet rocks.

Even though I'm one of those riders who is more at home on a motocross track than plonking over hills, I still enjoyed the TT. It had just enough power to crest almost any hill, while running slow enough to keep me out of trouble. But though the powertrain is up to the task, the suspension falls short by about three inches. Ruts that other bikes swallowed whole and spat out the exhaust pipe gagged the TT, sending through jolts that measured 6.5 on the Kidney Scale. Riding the TT will never replace busting berms on a YZ, but it isn't supposed to. It *is* supposed to be a playbike, and someone looking for *that* kind of machine won't have to look any further than a TT250 Yamaha. *—Dean Taylor*

# Yamaha TT250G




## SPECIFICATIONS:

**IMPORTER:** Yamaha Motor Corporation
6555 Katella Avenue
Cypress, California 90630

**CATEGORY:** trail

**SUGGESTED RETAIL PRICE:** $1459

**ENGINE**

Type ..... four-stroke vertical single
Valve arrangement ..... single overhead camshaft, two valves per cylinder
Bore and stroke ..... 75mm x 56.5mm
Displacement ..... 249.0cc
Compression ratio ..... 9.7:1
Carburetion ..... one 30mm Mikuni slide/needle
Air filter ..... washable oiled foam element
Lubrication ..... wet sump
Starting system ..... primary kick
Ignition ..... flywheel-magneto CDI
Charging system ..... none

**DRIVETRAIN**

Primary drive ..... straight-cut gears
Primary drive ratio ..... 3.13:1
Clutch ..... wet, multi-plate
Final drive type ..... #520 chain (⅝-in. pitch, ¼-in. width)
Final drive ..... 15/51 :3.400:1

| Gear | Internal gear ratio | Overall gear ratio | MPH per 1000 RPM |
|---|---|---|---|
| I | 2.64 | 28.09 | 2.72 |
| II | 1.68 | 17.88 | 4.28 |
| III | 1.26 | 13.41 | 5.71 |
| IV | 1.00 | 10.64 | 7.20 |
| V | .82 | 8.73 | 8.78 |

**SUSPENSION/WHEEL TRAVEL, IN.**

Front ..... 36mm stanchion tube diameter/8.8 in. (224mm)
Rear ..... adjustable preload monoshock/7.5 in. (191mm)

**BRAKES**

Front ..... drum, single-leading shoe
Rear ..... drum, single-leading shoe, rod-operated

**TIRES**

Front ..... 300-21 Bridgestone M-21
Rear ..... 510-17 Bridgestone M-20

**DIMENSIONS AND CAPACITIES**

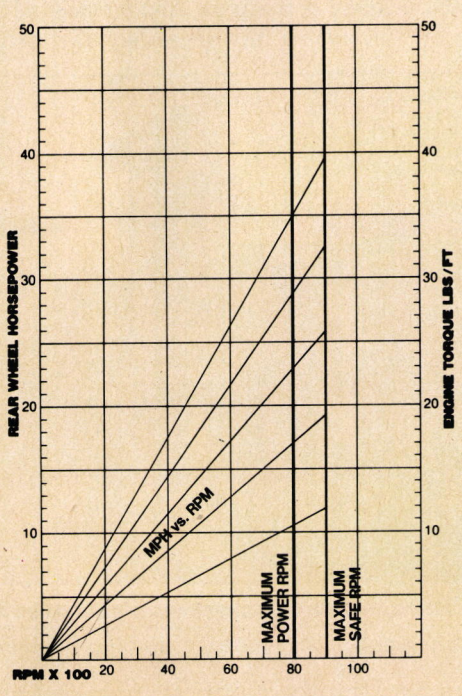
Weight ..... 242 lbs. (109.8kg)
Weight distribution ..... 44% front, 56% rear
Wheelbase ..... 55 to 57 in. (139.7 to 144.8cm)
Seat height ..... 33 in. (838mm)
Handlebar width ..... 33 in. (838mm)
Footpeg height ..... 14.8 in. (376mm)
Ground clearance ..... 11.3 in. (287mm), at aluminum skid plate
Steering head angle ..... 28.5 degrees from vertical
Front wheel trail ..... 4.7 in. (120mm)
Frame ..... tubular mild steel, single front downtube
Oil capacity ..... 1.7 qt. (1.6/)
Fuel tank ..... plastic, 2.0 gal. (7.5/), including 0.6 gal. (2.3/) reserve
Instrumentation ..... none
Top speed (calculated) ..... 83 mph (134 kph)

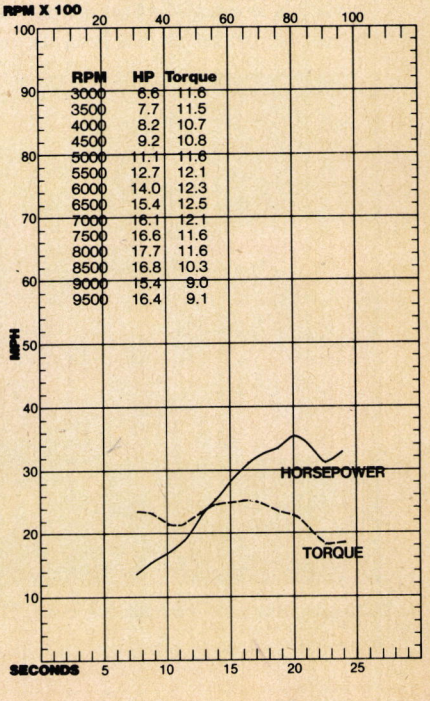
All weights and measurements are taken with machine unladen and fuel tank empty.

## COMPARATIVE TEST DATA:

| Make & Model | Horsepower | Wheel Travel Front/Rear, in. | Weight (fuel tank empty), lb. | Weight bias Front/Rear percent | Transmission, number of speeds |
|---|---|---|---|---|---|
| Yamaha TT250G | 17.7 | 8.8/7.5 | 242 | 44.0/56.0 | 5 |
| Honda XL250S | 14.8 | 7.8/7.7 | 262 | 43.1/56.6 | 5 |
| Husqvarna 250 WR | 21.9 | 9.5/9.5 | 238 | 44.1/55.9 | 5 |
| Kawasaki KLX250 | 15.2 | 9.9/10.5 | 239 | 46.1/53.9 | 5 |
| Suzuki PE250 | 20.4 | 7.5/7.4 | 235 | 45.1/55.9 | 5 |
| Yamaha IT250G | 27.7 | 9.8/9.8 | 244 | 43.4/56.6 | 6 |

## PERFORMANCE:



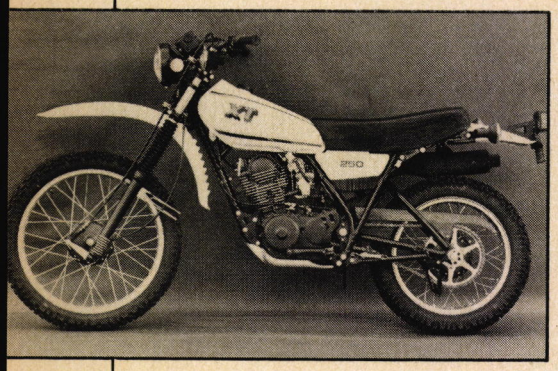




| RPM | HP | Torque |
|---|---|---|
| 3000 | 6.6 | 11.6 |
| 3500 | 7.7 | 11.5 |
| 4000 | 8.2 | 10.7 |
| 4500 | 9.2 | 10.8 |
| 5000 | 11.1 | 11.6 |
| 5500 | 12.7 | 12.1 |
| 6000 | 14.0 | 12.3 |
| 6500 | 15.4 | 12.5 |
| 7000 | 16.1 | 12.1 |
| 7500 | 16.6 | 11.6 |
| 8000 | 17.7 | 11.6 |
| 8500 | 16.8 | 10.3 |
| 9000 | 15.4 | 9.0 |
| 9500 | 16.4 | 9.1 |

## MINITEST:

# Yamaha XT250G

*King of the class.*



• Considerable abuse has been aimed at dual-purpose bikes over the years. Those multi-role machines with single-purpose stablemates were the most common target. Yamaha reversed that trend, though, with the introduction of the XT250G, which not only grabs best-in-class honors but proves as noteworthy as the dirt-only TT. And that was no small feat, given the almost instant popularity of the new playduro. But rather than a challenge to the TT's success, the XT's competence is simply supportive, since the bikes share much of the same technology.

Creative use of lightweight materials—such as all-plastic countershaft sprocket covers—lightened up both bikes, while using the engine as a stressed frame member did away with a couple of frame rails and kept the engine weight low to the ground. The rider's weight is kept down low, too, since the XT and TT both run 17-inch rear wheels, producing a comfortably low seat height.

Similarities between the two bikes continue to their engines, which differ largely at the exhaust pipe. Like the TT, the XT's SOHC engine is tuned for torque, while power pulses are calmed with a gear-driven counterbalancer. Also like the TT, the XT uses an automatic compression release to ease starting. And furthering the likeness, the XT's compression release also stopped working after a few days. Although Yamaha has a fix in the works, we found that simply disconnecting the release returned things to their one-kick norm.

All that attention devoted to light weight and torquey, predictable engine response paid off in the XT, which handles its street chores as well as most street-only 250s. The XT can be flicked about easily when you're in traffic, while an accelerator pump grafted to the 28mm Mikuni carb insures that most of the time you'll be able to get ahead of the game. And for those with an eye to the superslab, the well-matched suspension and smooth-running engine make real-world highway speeds attainable—without the vibration and bob-and-weave associated with most dual-purpose bikes.

Those same attentions to good design show up when you put the XT on the dirt—or better yet, ride it there. If your preference is for serious dirt thrills you won't find the XT's performance awe-inspiring, but it sure is confidence-inspiring. The low seat height allows dabbing where dabbing is due, and the four-stroke traction transferred through claw-action-type Bridgestones puts most hills within the XT's grasp. You can bottom the softly sprung Monoshock with motocross berm-shooting, but that's not really what the XT is for. After all, Yamaha's on-again-off-again 250 is not about to steal the thunder of a full-time dirt bike, just to borrow some of it. —*Larry Works*

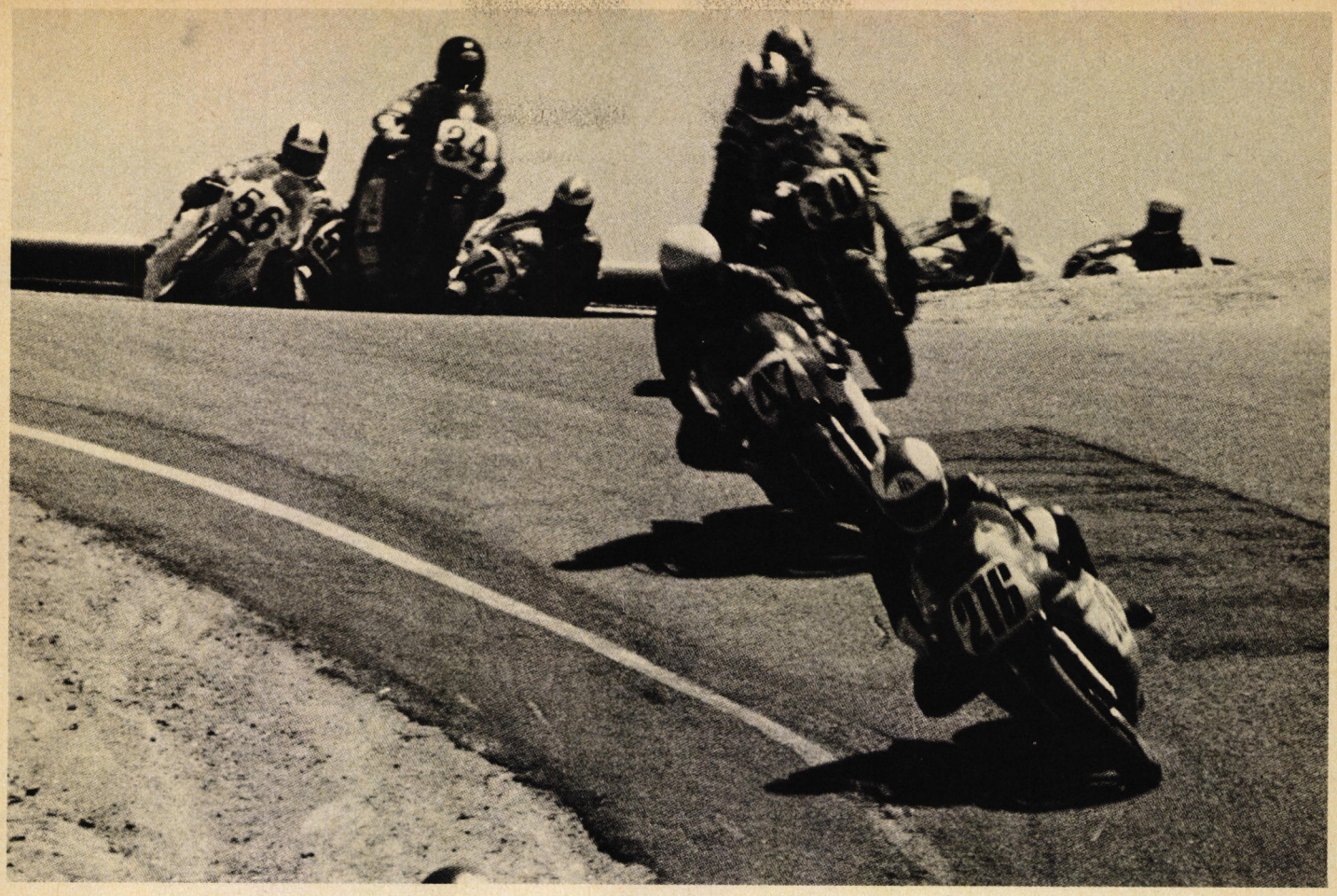
### YAMAHA XT250G

**Importer:** Yamaha Motor Corp. U.S.
6555 Katella Avenue
Cypress, California 90360

| | |
|---|---|
| Category | dual-purpose |
| Suggested retail price | $1479 |
| Engine type | four-stroke vertical single |
| Valve arrangement | single overhead camshaft, two valves per cylinder |
| Bore and stroke | 75.0mm x 56.5mm |
| Displacement | 249.0cc |
| Carburetion | one 28mm Mikuni slide/needle |
| Gearbox | 5-speed |
| Front fork/wheel travel | 35mm stanchion tube diameter/7.5 in. (190.5mm) |
| Rear shocks/wheel travel | adjustable preload/6.5 in. (165.1mm) |
| Wheelbase | 55.0 to 56.5 in. (139.7 to 143.5mm) |
| Seat height | 33.4 in. (848.4mm) |
| Weight | 254 lbs. (115.2kg) |
| Top speed (observed) | 75 mph (120.7 kph) |
| Fuel consumption | 59 to 75 mpg (25.1 to 31.9 km/l) |

**Dual-play interlude—a man, his trusty El Camino, a bottle of Gatorade and a horse called XT**

*There comes a time when a man's got to do what a man's got to do, and that's leave the pavement for a little wasteland solitude.*



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CALLING OUR BLUFF:

# The Great Cycle Guide Tour-Off

*"Gotta ride!"*

BY PAUL DEAN, DAVID DEWHURST, DAIN GINGERELLI, MICHAEL JORDAN, STEVE THOMPSON & LARRY WORKS

It was the Interstate that finally broke the ice. When Honda rolled that awesome collection of finely tuned touring-think into our garage, we knew the Big Gauntlet had been thrown. We knew that some kind of quantum leap had been taken in the world of touring. Here was a factory bike that had not just some things required for touring; it had *everything*. Honda had finally anted the game into the stratosphere. Nobody had *more* than the Big H, that was obvious. But the massive overkill, the deadly aim of the Gold Wing wrenched our enthusiast arguments into new channels: Is more necessarily better? What makes the best touring bike? Is it power, speed, style, comfort, low maintenance, low cost, high mileage?

Once shattered, the iceberg of glued-together common notions about touring can't be stuck back together again. It's an almost embarrassing truism to say that there are as many different ways to go touring as there are motorcycle people, but in this business we have to plunge beyond truisms; we have to *test* things.

You might imagine that the obvious way to probe this problem would be with a comparison test, the stock-in-trade of moto-mags. You'd be right. But the apples in this game are too different from the oranges; just because some guy once ran cross-country on a Hodaka Combat Wombat, does that mean we have to test it against the Interstate? Of course not.

The course of our discussions ran along lines familiar to any group of enthusiasts; inevitably, as we wrangled about The Best Touring Bike, individual prejudices arose. Normally, we try to wrench those prejudices into channels of some general use, but it slowly dawned on us that here, in this issue, more might be gained by allowing totally free personalities, by encouraging each staffer to build his own best bike from the ranks of the models available in America right now.

What you've got here is your basic bluff-off. Each staffer would survey the sea of bikes and pluck one out, choosing it as his personal touring champ. He would

PHOTOGRAPHY: DAVID DEWHURST

outfit it precisely the way he would were he actually buying it, just like you. And then he would confront his choice, reporting to us and to you the success or failure of his personal vision.

The choices were as diverse as the staff. Editorial Director Dean opted for enough power to spin the earth on its axis with the brand-new Suzuki GS1100, unfaired and tank-bagged. Editor Jordan arrived also at Suzuki's door with his choice of a new GS750, sans everything but bungies. Works reached deep into his pocket and popped more than 10 grand for a midnight-black BMW R100RT Tour Pac from San Jose BMW. Dangerous Dain Gingerelli stuck a black Shoei FM2 fairing and a rack bag on a Suzuki GS1000E and called it his. Thompson-at-Large went small with a BMW R65 festooned with a new Vetter Quicksilver fairing and BMW saddlebags. And the Interstate, the bike that started it all was grabbed almost instinctively by David Dewhurst.

A peculiar collection of hardware with which to define touring? Assuredly. No Kawasakis, no Yamahas, no Harleys and a triple-dose of Suzukis matched by a brace of Beemers. But the rules didn't require a consumer-sample comparison test, remember; this was to be a free-for-all, a fantasy turned real, for better or worse. These bikes weren't to be tested against each other, but against their riders' beliefs. So the lopsided selection is understandable; pick any six riders from any town in America and give them the same choice. Maybe they'd choose five Kawasakis and one Harley. Or maybe six XS11s. In this context, it really doesn't matter. Because what you're about to read isn't designed to find a winner; each of the reviews that follow is an attempt by the staffer to come to grips with the same problem that confronts you every time your fingers itch for a new grip and the horizon beckons hypnotically. It wasn't the ideal month-long ride, but as you'll read, it was enough.

One more thing. It was a *gas*.

*—Steve Thompson*

*Continued*

## CALLING OUR BLUFF:

# The Less-Is-More Option: BMW R65

*But you never get thumping for nothing.*

BY STEVE THOMPSON

• You need only know three words to understand my choice for this venture: "necessary and sufficient." It's a mathematical expression signifying perfect unity between the required quantity or quality and the fulfilling data. As with many mathematical phrases it conveys in English a beautiful philosophical notion; in this case, balance. Perfect balance.

The R65 seemed to fit this requirement like a quarter in an arcade video game. Because of my views on the Ideal Garage for the Eighties—one dirt bike, one back-road berserker, one touring bike, The Car and The Truck—I figured I didn't need the multi-role muscle of something like the Suzuki GS1100. Nor did I consider the cruise-controlled luxury of the superb Honda Interstate, because I ride alone.

My demands for a touring bike include high fuel economy, severe simplicity, the ability to carry a sport fairing and detachable saddlebags without falling down on the job and an impeccable sporting character—in plain language, a high-efficiency bike with a miser's thirst and a racer's appetite for corners.

The bronze R65 that Butler & Smith delivered into my hands fits these spec-sheet callouts well. Less weight, sharper styling, unexcelled riding position and driveline and fork refinements made the 1980 R65 on paper quite sufficient to fulfill my shopping list. Only two additions were called for—BMW Motobags (detachable ABS saddlebags) and some kind of sport fairing. I knew that I didn't want a café-racer fairing—too many years of an aching back underlined that—but I was stymied by the thin selection until the Vetter Quicksilver was brought to my attention. Designed to bridge the gap between peg-draggers and cruise-controllers, the Quicksilver fit the BMW perfectly.

When I stood back and cast an eye over the resulting package, it seemed to fit together well—another demand I make of my machinery. This Beemer, seeming a toy next to the imposing black majesty of

Managing Editor Works' R100RT Tour Pac, was trim, sleek and elegant—just the right look.

I knew before I even rode it the first mile that other things about it would be far less satisfying, of course. The price, to start with. Not since the late Sixties have I been able to imagine justifying a BMW purchase on consumerist grounds (or, to be fair, many other bikes' purchase either, since consumerists buy Toyota Corollas), but the $4230 for this 650cc opposed twin made my eyes water. Then there were the stands. Now, I know the Federal Republic of Germany has some law requiring snap-up sidestands, but the stand on this Beemer, somewhat prone to deciding on its own when to spring up and roll the bike gracefully over on a cylinder head, drives me crazy. Likewise, the technique required to bring the bike off its centerstand took me days to rediscover. And last, despite its excellent Metzeler tires, I suspected that the R65 would probably wrestle every rain groove it encountered, turning a freeway ride into a snake dance.

But because I couldn't really see an alternative to this motorcycle that would even approach its accomplishments, because while the wizards of Japan, Inc. have bracketed and finally zeroed-in on every type of motorcycle *except* the BMW, I shrugged and climbed aboard. For this ride, there were no other bikes as necessary or sufficient. At least on paper.

After days of seven-tenths back road blitzes spent chasing Dean's wickedly fast GS1100 interspersed with endless miles of

flat-out desert-griddle flying, the equation had been altered. To make a long day's calculation short, the paper numbers didn't match the real-world numbers. To be sure, the bike was a joy to fling through any kind of corner at any speed; it ignored the 40 pounds of gear in the Motobags, ignored the silver wedge hung on its fork and with almost effortless ease allowed me to use up every bit of its tires. And the riding position—by itself a factor capable of making or breaking *any* ride—could only be described as perfect for me. I never suffered numbutt, shatterhand or stiffneck anywhere on our journey. The low *cg* and instant transitions in corners coupled with the splendid fork and shocks told me better than any words that somebody in Munich or Berlin rides the way I do and built the bike to suit. But a glaring deficiency upset the balance.

Power. There just was never enough power. I didn't expect tire-smoking XJ650 acceleration, but I did expect to pass trucks when I wanted to—and especially in the mountains, when I grabbed a handful of throttle, all the R65 gave me was an asthmatic, bogging response. It wasn't much better on the flatlands. A top-speed run netted only 103 mph after a mile's WFO riding. Furthermore, although it did record the best mpg of the six bikes, the R65 only managed a few percent better than Dean's GS1100—a legacy of my having to keep the Bing carburetors wider-open to keep up.

It can be argued—and has been—that my expectations were too high, or that the company and pace of the trip were too fast. Neither case is accurate. I knew the '79 R65 was a mid-14-second quarter-miler and gauged it accordingly. But the '80 version apparently suffers from the EPA's decrees a great deal more than the '79. And as for keeping up with literbikes—well, perhaps if I were alone on Route 74, my pace would have been six-tenths and not seven. But the trucks still would have to have been passed, and the power still wouldn't have been there.

The case isn't closed. In spite of its idiosyncracies, the BMW accomplished one goal admirably; unlike many of the machines from Japan, Inc., this bike made me itch to climb back on it every time I got off. The only problem is power, and I don't know how much I'm willing to pay for another 10 or so Black Forest horsepower. The cost-benefit ratio, already embarrassingly skewed by the initial price, would then be almost indefensible.

Almost. But not quite. And that's why I'm sending for a speed-parts catalog instead of writing the R65 off. •

*Continued*


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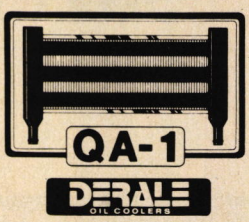


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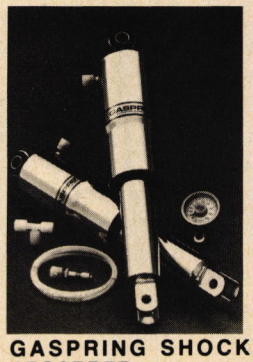

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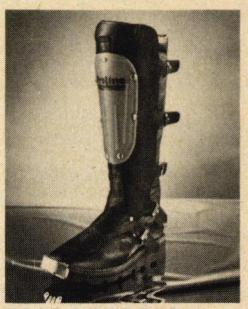

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## CALLING OUR BLUFF:

# Traveling Light: Suzuki GS750ET

*Living with a stripper.*

BY MICHAEL JORDAN

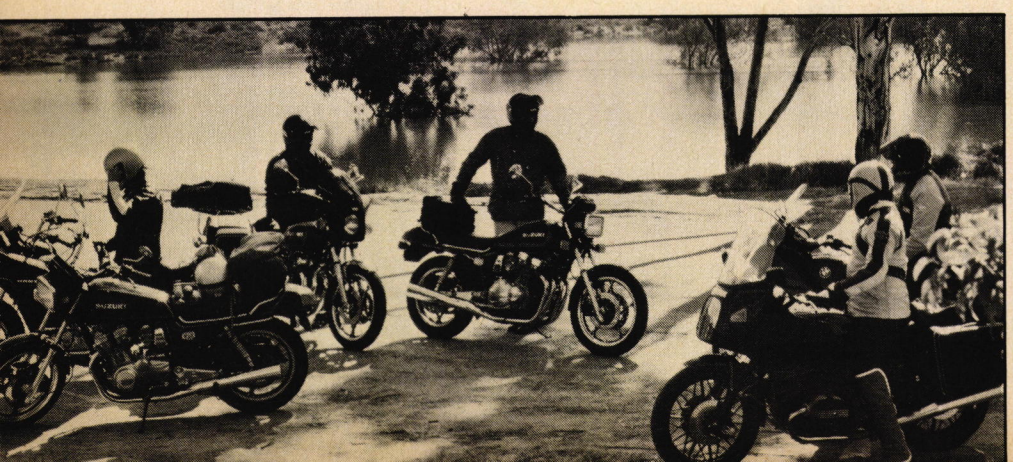
• If you think I prepared for this tour-off by rummaging through my closet for a small bag, stuffing some clothes into it and then slinging the whole business over the saddle of the nearest motorcycle, you're right. Maybe some people prefer traveling first cabin. I like steerage. All I need to go touring is a fast motorcycle with a sizable comfort quotient—like a nice Suzuki GS750ET—a bag filled mostly with socks and toothpaste, a Barbour rain suit wrapped in a Hefty garbage bag, a couple of bungie cords and the clothes on my back. What with all the plastic whipping in the wind, I might look like another migrant turnip farmer on the road, but I think traveling light keeps traveling perfectly free and easy.

Maybe this makes you wonder if I'm a serious touring rider. Maybe you wonder if I've learned to eschew irresponsible riding, to ask advice, to take care and plan fastidiously, to stay on well-marked roads and sleep only in AAA-recommended motels.

Nah, not me. I can't get serious about touring. I go on long trips to have fun with my motorcycle. Sometimes I think other people go on long trips just so they can carry a lot of luggage with them. And I think those people haven't got their priorities straight.

I mean, it's fun to ride full-dress touring bikes if you have to get somewhere. They're comfortable and convenient. But no matter how good they are, I feel far too overdressed to have a good time, as if my mother had smothered me in seven layers of clothing, complete with those mittens connected by a cord that runs up one sleeve and down the other. And then ordered me to go out and play. I ask you, how can you have fun in that condition?

In a lot of ways, I figure, this business of equiping a motorcycle in a special way for a long trip is just a shuck. When you ride out of your driveway, you're either aboard a good motorcycle or you're not. The amount of fun you'll have relates to the goodness of your bike. And as I see it, a motorcycle's goodness depends on agility and comfort, not luggage capacity. It's the same whether you're headed for a week in Arizona, lunch in the mountains or an afternoon beyond the city limits. And unfortunately, luggage cuts into your bike's agility and comfort quotient, so you end up bypassing those crossroads that beckon you to new adventures. So I travel as light as possible, looking for ways to depart from the straight line that describes the shortest and dullest distance between me and my destination.



Whenever it came time to hit the road during this tour-off, there was no doubt that those of us in steerage had the best deal. While everyone else was still figuring out where to stow their hairdryers and the towels they'd stolen from the motel among all the gobbledygook in their saddlebags, I was already bursting to go. What with all the packing and repacking that took place around me, I felt like I was traveling with a busload of majorettes from the Antelope Valley High School Marching Band.

Once the dotted white line fell under the Suzuki's tires, I knew I had the best deal as well. The GS750 was able to devote its cushy suspension to carrying me instead of keeping a bunch of baggage under control, so in the bumps and curves the bike didn't sink to its knees with its burden. Best of all, whenever I would squint into the distance and decide to pick up the pace, I didn't have to use a whip on the Suzuki to produce sporting speed. Whether my play-

ground happened to be the undulating two-lane to Calexico or the mountain track to Idylwild, there was plenty of red-blooded fun to be had. Free of the constraints of oncoming traffic or patrol cars, I could play as hard as I wanted to—not as hard as the luggage allowed me, the physics of a heavily burdened bike being what they are. When you're busy having fun in the corners anyway, you certainly don't have time to think about a top-heavy motorcycle that's doing a boogaloo beneath you.

Still, I admit that reality substantially modified my notions about the ability of a totally unmodified street bike to deal with long-distance travel. Basically, all the details must be worked out in the riding position. And after five hours of riding upright thanks to the Suzuki's swept-back handlebar, I was ready for a small and simple fairing. You can take just so many hours of having your head torn off by the air blast from oncoming trucks before you start to look for a place to hide every time you see one coming. At the end of the day, I usually felt like the big loser at a Sumo wrestling tourney. And besides that, I got a little tired of walking into the local Denny's and trying to chat up the hostess while looking like a human fly-swatter, what with the destruction my Bates jacket had wrought on the insect world.

Traveling light didn't prove bothersome in terms of luggage space, for I never wanted more clothes than what I could carry in my small duffle bag. I did have to learn to pack the plastic sack on top of the duffle bag in order to keep the whole mess from slipping off the bike at 70 mph.

Even so, I got pretty tired of unhooking the bungies and fishing through the socks and toothpaste at every gas stop while looking for the visor cleaner and PJ1 chain lube. Using only a small amount of luggage is fine, but you can never get anything you want if everything is lumped together in one bag. Next time, I'll still sling the luggage over the back of the seat, but I'll also carry a small Eclipse-type tank bag to hold the map, tire gauge and little stuff I need at gas stops. I'll be traveling light, and the extra weight won't affect the way the motorcycle behaves.

After living with this improvisational touring package during this trip, I'm still convinced that you can have more fun with your bike if you travel light. But it's important to dial in the comfort quotient with a lower handlebar and a small handlebar-mounted fairing. Once you've done that, you'll have a bike that can not only get you where you're going, but help you take advantage of the fun along the way. •

*Continued*

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## CALLING OUR BLUFF:

# Eclipsing The King: Suzuki GS1100ET

*Play twisty for me.*

BY PAUL DEAN

• In my mind, there are just two modes of touring: making good time and *having* a good time. And given the choice, I'll opt for the latter on every trip. That's why I'd build my definitive touring bike simply by strapping a tank bag onto an otherwise-standard Suzuki GS1100. If I can't have a rousing good time on a machine like that, I'm not trying very hard.

But wait a minute, you're probably saying, that's no touring bike; that's a fire-belching, take-no-prisoners street racer, an 11.4-second laserbike that almost *idles* at illegal speeds. You can't go touring on something like *that*, can you?

Well, I don't know about you, but I sure can. And did. Without the luxury of a fairing and saddlebags, even. And, at the risk of being labeled a card-carrying masochist, I have to admit that I enjoyed every bug-spattered minute of it.

You see, the only reason I want to travel long distances on a motorcycle is the same as why I ride *short* distances on them: I love 'em. I just can't get my fill of the kinesthetic highs and the sensations of total freedom that I experience aboard a motorcycle. Those pleasures reach their zenith when I'm swooping into corners and cranking the horizon over at crazy angles and feeling the relentless tug of *big* horsepower straining at my arms. And every bit of touring gear that is on the machine, regardless of how small or seemingly innocuous, detracts from the intensity of those sensory inputs. So it's Spartan accommodations for me, no matter if the trip is 5000 feet or 5000 miles, for I want to savor the essence of Pure Unadulterated Motorcycle as much as I can.

This is not to say that an ideal tour for me would be to drag footpegs from Sacramento to Sag Harbor. Even if the almighty GS were ready for that kind of non-stop cross-country berserking, neither Smokey nor my nerves are. But I certainly can think of worse ways to spend a trip than to find every tortuous road along the way and promptly unravel it at about seven- or eight-tenths tempo. Nothing hair-raising or scab-collecting, mind you, but just rigorous enough to be exhilarating.

A number of contemporary motorcycles would have done a simply dandy job of that, but the GS1100 beckoned to me like a siren to an ancient mariner. And it's not hard to understand why. For one thing, the GS fits my 6-foot-2, 200-pound frame right down to the ground, as though Suzuki's designers had cloned me in my sleep and then vacuum-formed the 1100 around my borrowed likeness. I did, admittedly, graft on a pair of Honda's soft CR-type motocross grips in place of the stock blister-raisers, but that was the only ergonomic detail that needed fine-tuning.

The sole glitch in my methodical madness, in fact, proved to be in the mating of tank bag to motorcycle. I chose an Eclipse, assuredly one of the standards of modern tank baggery, and crammed it full with a change of clothes, the pants to my Mascot riding suit, a Widder Lectric Vest and, of course, the traveling basics—tire gauge, chain lube, flashlight, roadmaps and such. But as soon as I lashed the whole overstuffed affair onto the 1100's tank, I discovered that the bike then had a turning radius just shorter than that of a Trailways bus. I had forgotten that big Suzukis have almost tiller-like handlebars that sweep radically rearward from their mounts on the top triple clamp. So the bulging Eclipse would foul either the horn button or starter button after just a few degrees of handlebar movement. I made a feeble at-

tempt to live with the arrangement but quickly tired of blowing the horn or whizzing the starter motor every time I re-aimed the 1100. So before the first day was out, the tank bag had become a *seat* bag, bungied on the passenger's part of the saddle.

Aside from forcing me to stop and swivel my head around every time I wanted to study the map in the bag's clear document pouch, the Eclipse's new location posed no problems. Actually, I think I liked it behind me even better, for it allowed me to play my three-quarter-speed roadracy games more confidently than when the bag literally was right under my nose. And play I did, managing to pace our six-bike field over mountain roads at a spirited but less-than-cardiac-arrest rate without *ever* downshifting out of fifth gear or touching the slightest bit of undercarriage to the pavement. And as expected, simply rolling the throttle open would make little images out of the big images in the 1100's mirrors any time I so desired.

We also had to ride on stretches of Superslab, though, while either proving or disproving our individual theories about touring machines. But as far as I'm concerned, the bare-bones GS came through with flying colors. I was able to end each day's trek just as unfrazzled as the guys on the high-zoot touring rigs, devoid of saddlesores, tired wrists, neck cricks and backaches. Further, thanks to a snug-fitting Simpson helmet with a bit of weatherstripping glued around its faceshield opening, I escaped the dreaded post-ride ear-roar-and-bloodshot-eye disease that can result from the wind playing havoc with an unfaired tourer's head. And through the magic of my Mascot riding jacket, that same wind may have hammered at my chest but didn't faze it.

So no matter how you look at it, I called my own bluff . . . and won. Oh, there were times when I entertained thoughts of having a fairing to run interference for me, and visions of clean clothes danced in my head more than once. But always superimposed over those distracting mental images were vivid pictures of the snaky roads that lie ahead, waiting invitingly to be unkinked. At that point, nothing in the world could have persuaded me to trade that kind of back-road good time for a little bit of Interstate pampering. Besides, had I been touring exclusively *my* way instead of in a group whose individual missions were mixed, I wouldn't have been on so much Superslab to begin with. Which points out another aspect of the good-times tour: Make sure that you choose your traveling companions as carefully as you choose your motorcycle. •

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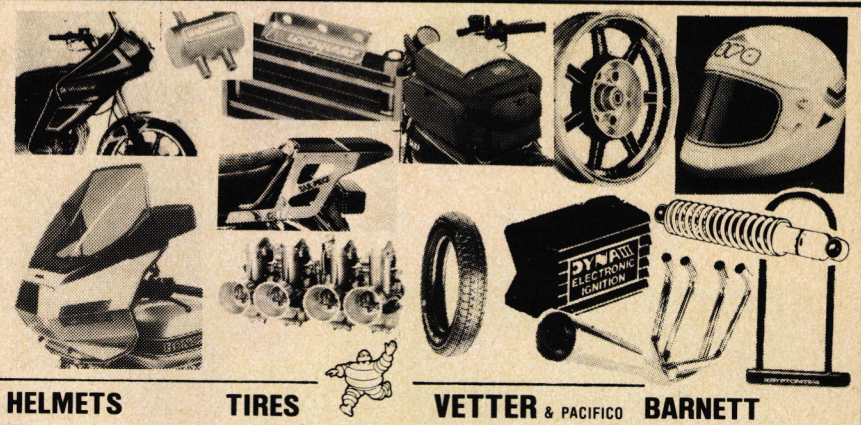


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## CALLING OUR BLUFF:

# Specialized Touring: Honda's GL1100 Interstate

*What started it all.*

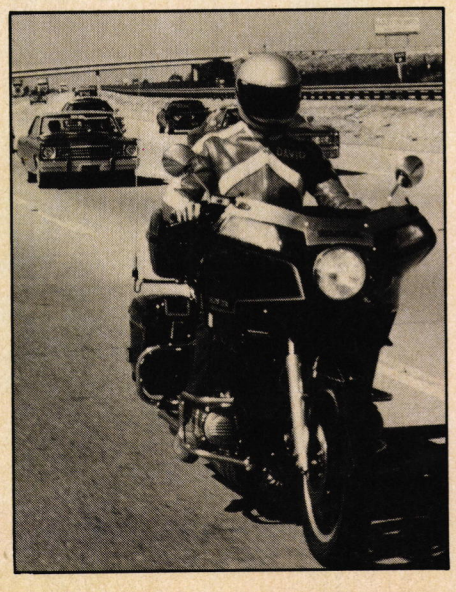
BY DAVID DEWHURST

• I have grown to dislike motorcycles that display compromise as a virtue. In this age of specialization The Universal Motorcycle is a thing of the past. There was a time when you could ride to work, roadrace and trail ride competitively on the same machine. No more. Specialized machinery is an essential part of modern motorcycling.

Just as roadracing requires low bars and motorcross demands a two-stroke motor and long suspension travel, a touring bike also requires special features for me. It must transport me effortlessly all day with total reliability. That demands a large motor. It must also keep me comfortable in all kinds of weather. That demands a fairing and a good seat. It must also keep me entertained when Mother Nature does not. That demands gadgets, gauges and a radio. Finally, it must carry all my belongings with ease. That calls for a share of waterproof luggage space.

My ideal tourer is clearly defined and almost perfectly embodied in the Honda GL1100 Interstate. It is big and reliable with a good fairing and luggage space, and offers every touring convenience presently known to modern man.

But while I opted for the no-nonsense, no-compromise tourer, the other staffers obviously still believed in The Universal Motorcycle, one that could perform many roles. With one exception they made their choices as a compromise between twisty-road speed and bare essential touring conveniences. Two Suzukis went unfaired with strap-on luggage for toothbrushes, while a third GS used a small Shoei fairing and rack-mounted bag. All three wanted to keep the bikes as light and nimble as possible at the expense of rider comfort. A BMW R65 was also chosen for its small size and low weight, but it did have the benefit of a small, lightweight Quicksilver fairing and panniers.



Only the San Jose BMW R100RT came close to my Honda, and even that expensive special lacked the gadgets that would relieve the long-distance boredom. So by departure time I was convinced that I had made the right choice. My only nagging doubt was that the Honda's hefty 718-pound weight would hold me back on the tighter sections of the tour. But in the evening Los Angeles rush hour the GL split lanes with the best of them and all my worries evaporated when I turned the remarkable Clarion stereo up loud.

By the first gas stop the sun was down and so was the temperature. As most of the other riders unpacked warm clothing for the chilly night ride, I stuck with thin gloves and an open-necked jacket. Behind the adjustable fairing the air was warm, and only a little buffeting of the helmet reminded me of what the others were suffering. Once again I turned up the stereo, lay back in comfort and commended myself on a good choice of machine.

If anything was going to shake my satisfaction it would be the second day's mountain ride. The lightweight tourers took every opportunity to remind me of the Honda's weight as we loaded up in the morning, but they were all silenced when the Honda managed to stay with them in the twisties. The BMWs were short of power and despite their lighter weight had a hard time staying with the Honda.

The Interstate could be flicked about with amazing ease, too easily at times be-

cause the footpegs ground out when the going got fast. But that was the only real limit to racing because the air suspension and rigid chassis kept the bike feeling taught and precise. Better still, I could listen to my favorite music as the horizon tilted and watch the altimeter move as we climbed and the temperature gauge rise as we headed down into the desert.

As the last corner unwound and the desert highway pointed to the horizon, the others soon got bored. Their bare motorcycles lacked the creature comforts that make the endless road manageable. They fought the wind and the bugs and resorted to roll-on races to stop themselves from going crazy. I was happy enough behind my screen taking it easy and listening to the music, but I am a racer and could not resist a roll-on race. So imagine my delight when I did not come in last. The Honda even managed to beat a bare-bones Suzuki GS750, with only the 1000 and 1100 pulling out a lead. So despite its weight the Honda was fast proving that it may be fat but it certainly is fit.

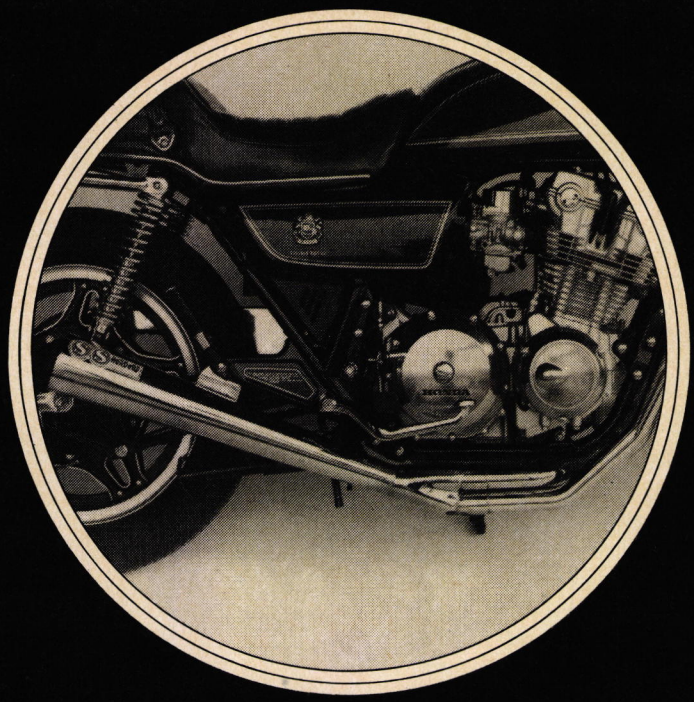
And I, too, was feeling fit after a long day in the saddle because the Interstate really had cosseted me. The seat was deep and soft, the pegs were in the right position and the bars fell easily to hand. The full fairing also did its bit to protect me, and with all those gadgets to mess with my mind never got tired. The others were complaining about the bugs and the wind and the blast from the trucks but I hadn't even noticed. I knew I had made the right long-distance choice in the Honda Interstate.

I am just waiting for our next tour, when I am sure a few of the others will try to lure me away from the Honda. They may not like to admit that I chose better, but who likes to announce when he is wrong? I know I wasn't, and I plan to be aboard the fully-equipped GL next time.

Once you have ridden a bike like the Honda Interstate you really do appreciate why you should not compromise anything when you choose a bike. I picked the machine designed solely for touring with no compromises made for low weight or canyon racing. And the concept is so well executed that the GL performs its touring duties perfectly and still manages to do well where it really should not, in the twisties.

I am almost tempted to say that The Universal Motorcycle really does exist—in the form of an Interstate. But it does not, because Honda refused to scatter its energies trying to make a bike for all reasons. That adherence to a single goal convinces me that the no-compromise Interstate was the Tour-Off's winner. •

*Continued*

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## CALLING OUR BLUFF:

# San Jose BMW's R100RT Tour Pac

*Opting for opulence.*

BY LARRY WORKS

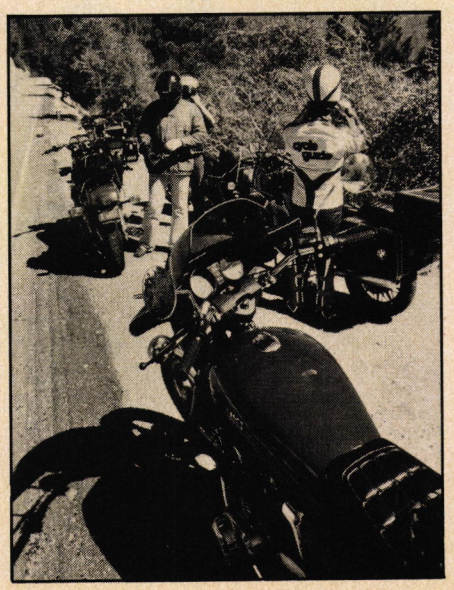
• Straight-line tourers and canyon go-fasts usually mix together about as well as 50-weight and Gatorade. That is, not well at all. Coerce a couple of zealots of each moto-denomination into the same room and you'll produce not only rampant marque fever but accusations that each side is only pretending to have fun when they ride off to do their own thing.

Bunk, pure and simple. The two rides don't have to be mutually exclusive; and neither do the bikes. Nowhere is it cast in bronze that a "good" bike arrives *sans* touring gear. And equally nonsensical is the notion that you have to pack along the kitchen sink to enjoy the trip. Somewhere in between those absolute blacks and whites lies the subtle shade that describes my tour-off choice. And worked into its operating definition is a fast pass through the canyons when it comes up. If I had to stop and portage every time something interesting loomed ahead, I'd just as soon pass on the whole deal, thanks all the same.

No, the way I see it, the right qualities for a tourer produce a machine no less functional than a GP roadracer or an Open-class motocross bike. And like those equally high-performance machines, the Right Touring Bike must be tailored to the rider. With that in mind, when the blank check stopped in front of me and it was time to name my own bluff, I chose something that wasn't off the rack.

To fit me, my choice first had to ride like a motorcycle instead of a touring platform. That ruled out some of the heavyweights right off. Then, since battling the elements is low on my list of Things To Do, it had to carry a touring fairing. I don't want to arrive—whatever the destination—looking like the sole survivor of a locust infestation. Further, since I've never enjoyed the nagging doubt that my riding gear has slipped its fetters and is lying in some ditch, touring luggage was mandatory. And finally, it had to have style—but not the *nouveau* whip-antenna look of the GL1100 that Dewhurst chose. Something more refined. Something that wouldn't be confused with the hundreds of Winnebikes wobbling down the road.

San Jose BMW's R100RT Tour Pac fit the bill nicely. Wearing just the right shade of menace in its deep coat of Motosport Black, the Tour Pac sits on its centerstand as a tall, dark reminder that custom-tailored motorcycles still exist, despite the encroachments of the universal-fit syndrome. And if the plus-$10,000 buy-in seems a bit pricey, there are lots of bikes that are more . . . reasonable. I mean, if you fit something off the rack and can live with a little sag around the shoulders, it's nobody's business but yours.



Once we gathered the convoy together I was sure that my bespoke motorcycle made good sense. The RT's standard Motobags and the not-so-standard Luftmeister Boot Box were packed and locked while the garbage-bag contingent was still trying to batten down the plastic. It seemed only apropos to pack in a few bungies. Not for myself, you understand, but the riders who'd opted for the strap-on look seemed like they'd need a little help down the road. *Noblesse oblige*, you know.

My satisfaction with the Tour Pac continued when we hit the highway. The bike's Bar-Backs put me bolt upright where the Mayer Day-Long saddle cradled me, but the RT fairing kept me comfortably out of the wind. All the while the stock RT engine sang a song through the Tour Pac's drilled baffles that promised performance. At 70 mph, everything seemed

to come together; the engine spinning just on the far side of four thou, begging to be quicked up into the powerband.

Checking into the hotel simply reinforced my pleasure. Thompson and I unlocked and removed our Motobags and stepped into the lobby with proper luggage. The rest of the group straggled in under the stony gaze of the desk clerk, looking for all the world like two-wheeled shopping-bag women cadging for a place to sleep. Naturally we pretended we didn't know them. And next morning, bags packed in the hotel room as bags are wont to be, we waited as the hangers-on tried to remember where they'd stowed everything the last time they strapped it on.

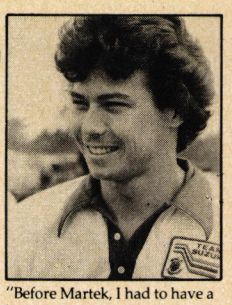
They got their revenge, though, the strippo riders did, when we were deep into the mountain twisties. Despite the attention San Jose paid to handling, with a reinforced swingarm, fork brace, replacement triple clamp and Koni anti-bottoming springs added to the stock RT fork, there's no denying that a fully dressed bike is, well, fully dressed. And the riders I'd snickered at for packing light began to pull away. It wasn't just the weight of the touring gear, though; the seat's lateral ridges determined my position as if I were glued down. I was still comfortable, but that comfort was confined to a single location and I couldn't move around to work the bike through the corners.

If the Tour Pac lost a little ground in the mountains, it made up for it coming down into the desert. The big Beemer didn't keep anyone waiting as it swooped to the flatlands. The next fuel stop showed that the Tour Pac had paid heavily for its workout in the mountains, though. Its gas mileage dropped from a high of 57 mpg to a low of 27 mpg. While we fueled, I fielded questions about wind blast from red-eyed, sand- and bug-blasted prophets of the no-fairing set, which took some of the sting out of the mountain massacre.

All told, the Tour Pac came within walking distance of what I'd hoped, with comfort as its strong suit. If I were going to do it again, though, I'd refine the concept by leaving off the Bar-Backs and the touring saddle. And I could live without the Boot Box, too, since there's already plenty of room in the Motobags to pack for even a long trip. Dropping off that bit of top-heavy weight and letting me move around on the bike more easily would bring it in line with the goal. But just because I'd made a few changes doesn't mean I was dissatisfied. I just figure that if you expect to get something custom-fitted you've got to try it on before you send it back for alterations. ●

*Continued*


# Terry Vance agrees,



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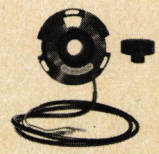

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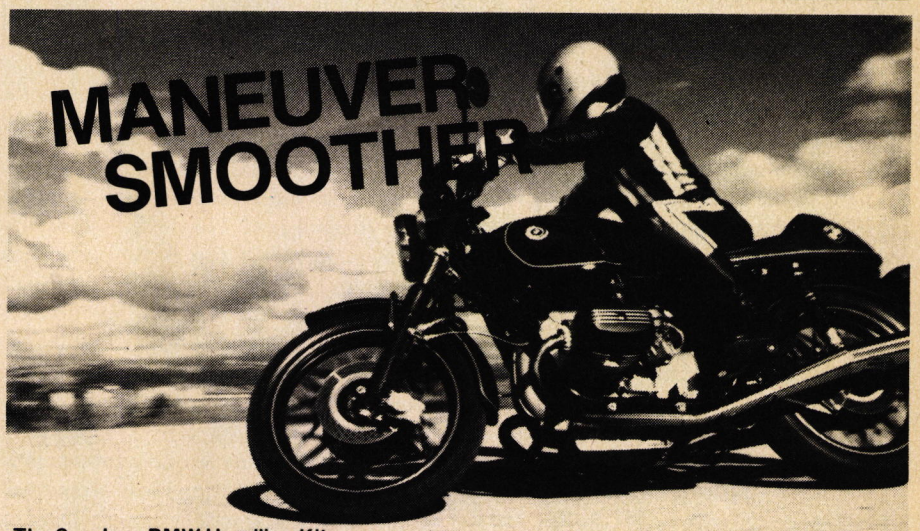


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## CALLING OUR BLUFF:

# Sport-Touring Elegance: Suzuki's GS1000ET

*Back to basics on the backroads.*

• Touring makes sense only when you have no place to go. Destinations only muddy up the whole idea and turn a tour into a trip. And trips are a drag. Trips mean time schedules to keep, and if you fall behind schedule, your stomach ties up in knots and the only thing you watch is the odometer grinding out the miles ever so slowly.

I tour to get away from time. My Snoopy wristwatch is left behind on the bedside table when I tour and the only thing I really care about is having enough gas in my tank. Until I return, I want only solitude. No news broadcasts, no CB chatter, just let me listen to the wind whispering around my helmet as my bike's engine cracks the stillness of a rural road. Then, once the road turns into a country lane, let my feet dance on the footpegs, braking and shifting for the turns. That's paradise.

I call this ghost-roading. There may be an Interstate somewhere nearby, but I prefer those forgotten two-lanes that used to connect the country before the coming of Interstate concrete. The broad dirt parking lots next to the diners at the junctions remind me of the 18-wheelers that once passed this way, when the diner's greasy cuisine was the best in 50 miles.

The diners are still open, but the food isn't as good anymore now that the truckers have disappeared. Now they eat at the same plastic roadside restaurants that other trip-takers do. Overland dining isn't sacred to them anymore, but it is to me. I hold the ghost roads sacred. The same goes for the motorcycles I use to explore them. And for my ultimate ghost-roader, I'll pick the Suzuki GS1000E.

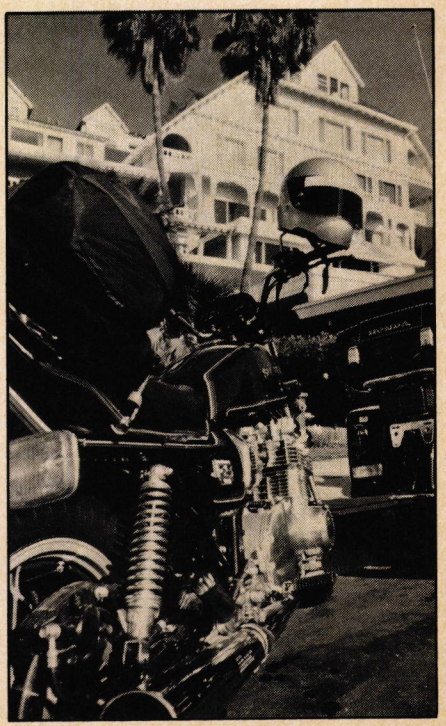
The first place the Suzuki's virtues come into play is while riding those sections of Interstate that connect my ghost road playgrounds. It's totally comfortable thanks to adjustable suspension. I set the rear suspension to the softest settings and leave the air pressure in the fork at 10 psi. The Suzuki rides as comfortably as a Buick Electra, and the pillow-soft dual-density seat makes sure all the bumps are flattened before they can get to me. All that's lacking to make the E-model a perfect All-American sedan is electric windows and power steering.

But I don't need Detroit's amenities where I'm going. Something else is called for. So when I reach the off-ramp marked by an old barn and silo, I stop to dial up the suspension a few clicks. And now the Suzuki is ready to bob and weave through the rights and the lefts with an enthusiasm to match my own.

What we're really talking about here is sport touring. Long distance comfort punctuated by bursts of peg-scratching enthusiasm. The right pace is about seven-tenths, or about 70 percent of the speed I'd use if my ghost road happened to be a roadracing track. At seven-tenths, I have plenty of time to analyze each turn, compute its entrance and then peel off at precisely the right moment. And if there's a rock or a greedy motorist in my lane around the bend, I've got plenty of time to make corrections and avoid catastrophy.

I find the fun of seven-tenths riding in the game of apexing. I want to clip each corner in the spot that produces a smooth, uninterrupted swoop from entrance to exit. So I determine where I want to begin my geometric arc and tilt a footpeg skyward. I don't usually make a mess of the turns because I'm not riding fast enough to squeal the brakes and smoke the tires. After tapping the brakes, I just make a smooth transition to full lean, a thrilling moment in itself. It's one of the most pleasurable moments in motorcycling riding, so it's no wonder I like to string thousands of them together in sport touring.

And in sport touring, the time in the corners is usually broken by small towns. I especially like the roads that are woven



like cob-webs around old mining towns in the Sierra Nevada. I'm just another cowpoke drifting into a small town as I cross the city limits, lost in time again. Then when I emerge on the other side of town, I'm back in the 20th Century and into the seven-tenths mode once again. The GS1000E and I raise dust until a roadside historical landmark piques my interest and I stop to nourish my thirst for history.

Ghost-roading is fun on just about any bike, but the GS1000E is especially good. As you can tell, I need a bike that can respond to the different rhythms of the roads I travel on, and the GS switches from mode to mode instantly. And what's more, it's the best bike for each individual mode, not to mention all of them together. But since this project gave me an open wallet to play with, I could afford to improve the GS in the little ways that matter. I left the engine completely stock, because for all but the insecure airhead, there's plenty of power perking inside the Suzuki's four cylinders without cluttering them up with radical cams and pistons. The bike itself required no changes.

The things that mattered for me were just a few additions to let me travel in comfort. First a Shoei FM-2 handlebar fairing, then a Tour Pack luggage bag and rack. The fairing shielded me from the wind and bugs so I could travel in the same long-distance fleet as the Works and Dewhurst moto-yachts, yet it didn't interfere with the 1000E's civilized handling, so the Jordan and Dean GSX-tandem never left my sights through the turns. The Tour Pack divided my gear into a bunch of compartments where I could reach it easily, and frankly, I couldn't begin to use up its capacity. I could have taken along a passenger's gear easily. Ideally, I would like to move the rack and bag forward a little to cut down on the tail-wagging effect in the turns, but the rear tire was still a lot more stable than any bike I've ridden with a tour trunk or saddlebags.

After the Bluff-off, I have only one reservation about my choice of bike and equipment for touring. Since that ride, we've tested the GS1000G shaftie, and I'd prefer that over the E-model for ghost-roading. The GS1000 is the incarnation of perfection in either form, but since the shaftie handles as well as the E, I'll take the convenience of shaft drive.

So that's all I need to cut loose on a tour. No super suspension, large capacity gas tank, trick CB stereo or other miscellaneous trickery. I'll focus on just the basics—a good motorcycle, a windshield and luggage capacity—with a slant toward sport. From there, just give me a gasoline credit card and some old backroads. ●

*Continued*

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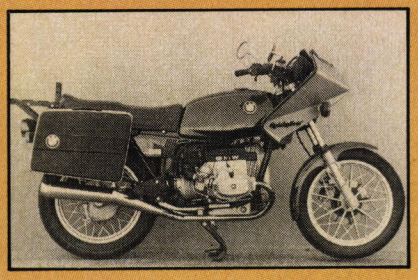
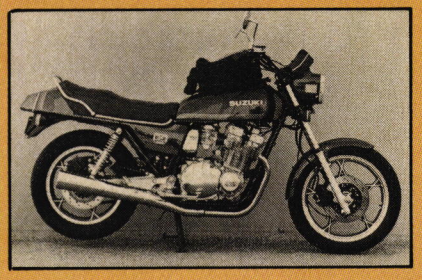


## BMW R65

**Importer:** Butler & Smith
135 E. Stanley
Compton, California 90220

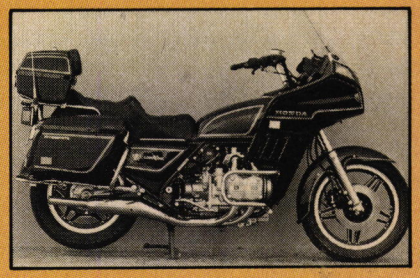
Category ..... Thompson's ideal tourer
Suggested retail price ..... $4440 (as tested)
List price ..... same as upright price
Engine type ..... four-stroke horizontally opposed twin
Valve arrangement ..... pushrod-operated overhead valves
Bore and stroke ..... 2.0mm x 61.5mm
Displacement ..... 649.2cc
Carburetion ..... two 32mm Bing constant-velocity
Gearbox ..... 5-speed
Front fork/wheel travel ..... 36mm stanchion tube diameter/5.0 in. (127.0mm)
Rear shocks/wheel travel ..... 5-way adjustable spring preload/4.5 in. (114.3mm)
Wheelbase ..... 56.0 in. (142.2cm)
Seat height ..... 32.5 in. (825.5mm)
Weight ..... 469 lbs. (212.7kg)
Fuel consumption ..45.5 to 58.7 mpg (19.4 to 24.9 km/l)



## SUZUKI GS1100ET

**Importer:** U.S. Suzuki Motor Corp.
13767 Freeway Drive
Santa Fe Springs, California 90670

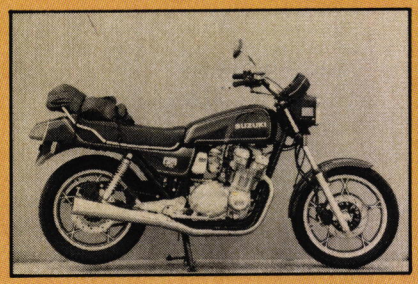
Category ..... Dean's ideal tourer
Suggested retail price ..... $3718.95 (as tested)
Engine type ..... four-stroke vertical four
Valve arrangement ..... double overhead camshafts, four valves per cylinder
Bore and stroke ..... 72.0mm x 66.0mm
Displacement ..... 1074.9cc
Nominal earth-axis shift under acceleration ..... four degrees from vertical
Carburetion ..... four 34mm Mikuni constant-velocity
Gearbox ..... 5-speed
Front fork/wheel travel ..... air-spring, 37mm stanchion tube diameter, 4-way adj. spring preload, 4-way adj. rebound damping/5.8 in. (147mm)
Rear shocks/wheel travel ..... 5-way adj. spring preload, 4-way adj. rebound damping/4.3 in. (109mm)
Wheelbase ..... 60.0 to 61.3 in. (152.4 to 61.3cm)
Seat height ..... 33.3 in. (846mm)
Weight ..... 544 lbs. (246.7kg)
Fuel consumption ..37.0 to 49.0 mpg (15.7 to 20.8 km/l)



## HONDA GL1100 INTERSTATE

**Importer:** American Honda Motor Company
100 W. Alondra Boulevard
Gardena, California 90247

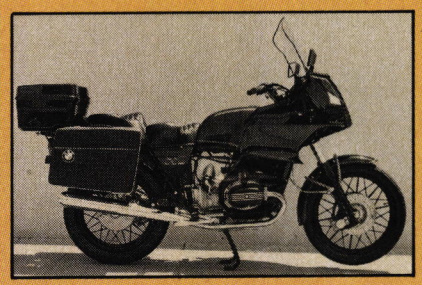
Category ..... Dewhurst's ideal tourer
Suggested retail price: ..... $5578
Engine type ..... water-cooled four-stroke horizontally opposed four
Valve arrangement ..... single overhead camshaft
Bore and stroke ..... 75.0mm x 61.0mm
Displacement ..... 1085.0cc
Carburetion ..... four 30mm Keihin constant-velocity, one accelerator pump
Gearbox ..... 5-speed
Watts per channel ..... enough to dim the streetlights
Front fork/wheel travel ..... air-spring, 39mm stanchion tube diameter/5.9 in. (150mm)
Rear shocks/wheel travel ..... air-spring/3.8 in. (97mm)
Wheelbase ..... 63.5 in. (161.1cm)
Seat height ..... 30.8 in. (782mm)
Weight ..... 718 lbs. (325.7kg)
Fuel consumption ..33.0 to 44.5 mpg (14.0 to 18.9 km/l)



## SUZUKI GS750ET

**Importer:** U.S. Suzuki Motor Corp.
13767 Freeway Drive
Santa Fe Springs, California 90670

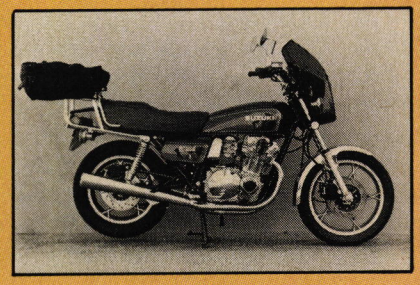
Category ..... Jordan's ideal tourer
Suggested retail price ..... $2799
Engine type ..... four-stroke transverse vertical four
Valve arrangement ..... double overhead camshafts, four valves per cylinder
Bore and stroke ..... 67.0mm x 53.0mm
Displacement ..... 747.0cc
Carburetion ..... four 32mm Mikuni constant-velocity
Gearbox ..... 5-speed
Front fork/wheel travel ..... 35mm stanchion tube diameter/5.3 in. (135mm)
Rear shocks/wheel travel ..... 5-way adj. spring preload/4 3 in. (109mm)
Wheelbase ..... 59.8 to 61.3 in. (151.9 to 155.7cm)
Seat height ..... 31.8 in. (807mm)
Optional equipment ..... trash bags, Hefty type, two mils average thickness
Weight ..... 523 lbs. (237.2kg)
Fuel consumption ..39.0 to 55.0 mpg (16.6 to 23.4 km/l)



## TOUR PAC R100RT

**Manufacturer:** San Jose BMW
1886 West San Carlos Street
San Jose, California 95128

Category ..... ideal Works bike, tour type
Suggested retail price ..... $10,245.77
Engine type ..... four-stroke horizontally opposed twin
Valve arrangement ..... pushrod-operated overhead valves
Bore and stroke ..... 94.0mm x 70.6mm
Displacement ..... 979.9cc
Carburetion ..... two 40mm Bing constant-velocity
Gearbox ..... 5-speed
Front fork/wheel travel ..... 36mm stanchion tube diameter/6.5 in. (165.1mm)
Rear shocks/wheel travel ..... 5-way adjustable spring preload/4.5 in. (114.3mm)
Wheelbase ..... 58.3 in. (148.3cm)
Seat height ..... 32.2 in. (817.9mm)
Wallet-to-hand distance ..... if you have to ask, you can't afford it
Weight ..... 548 lbs. (248.6kg)
Fuel consumption ..27.0 to 57.0 mpg (11.5 to 24.2 km/l)



## SUZUKI GS1000ET

**Importer:** U.S. Suzuki Motor Corp.
13767 Freeway Drive
Santa Fe Springs, California 90670

Category ..... Gingerelli's ideal tourer
Suggested retail price: ..... $3864 (as tested)
Engine type ..... four-stroke transverse vertical four
Valve arrangement ..... double overhead camshafts, two valves per cylinder
Bore and stroke ..... 70.0mm x 64.8mm
Displacement ..... 997.4cc
Carburetion ..... four 34mm Mikuni constant-velocity
Gearbox ..... 5-speed
Front fork/wheel travel ..... air-spring, 37mm stanchion tube diameter/5.8 in. (147mm)
Rear shocks/wheel travel ..... 5-way adj. spring preload, 4-way adj. rebound damping/3.3 in. (84mm)
Wheelbase ..... 59.7 to 60.7 in. (151.6 to 154.2cm)
Seat height ..... 33.0 in. (809mm)
Weight ..... 528 lbs. (240kg)
Potential tickets-per-mile quotient ..... high enough to paper a wall
Fuel consumption ..32.0 to 50.0 mpg (13.6 to 21.3 km/l)

## PRODUCT EVALUATION:

# Bell Helmet Clock

*How to tell when it's time to ride.*

• By now you've probably heard the rumor about a new non-Snell-approved full-coverage helmet from Bell. It's true, you know. It retails for $59.95 and it's plastic. That's right, plastic. But before you wander off and make a fool of yourself in some motorcycle dealership demanding to see it, take a closer look at this one. It's about one-fourth scale and it tells time.

If you were to pull this helmet clock apart to find out what makes it tick, you'd find a battery-powered movement concealed within the helmet shell. A Heuer Swiss movement with a sweep second hand, to be precise. The movement carries a one-year warranty, which coincides just about exactly with how much time-telling it will squeeze out of a single C-size battery.

A trendy safety item for your pet Rhesus this clock is not, though with the rubber molding and the clear visor you might have been hard-pressed to tell it from the real thing. The shell comes in either white or black, but if matching your multi-color racing helmet appeals to you, the helmet clock reportedly stands up to model paint without losing one whit of its trackworthiness.

The helmet clock makes an attractive and practical desk ornament for any thoroughly crazed motorcycle enthusiast. It can be ordered through authorized Bell dealers. Factory spokesmen have so far denied rumors that the clock will be available in Kevlar or carbon fiber versions in the near future or that Bell researchers are currently developing fog-free shields for cold-weather clock watching. *—Larry Works*

**A new face behind the shield**

*Telling you it's time to ride.*

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## *PRODUCT EVALUATION:*

# Cobra Alarm And Pager

*Sometimes it takes a snake to catch a snake.*

• Motorcycle alarms are just so much extra baggage. You never really need one—until somebody tries to steal or vandalize your bike. And then if the alarm succeeds in detering the rascal who tampers with your bike, it's worth countless insurance policies. Because you still have your bike.

A list of available motorcycle anti-theft devices reads like an inventory ledger from the Spanish Inquisition, including chains, bars, locks and even guard dogs. But current technology says the way to short-circuit a would-be motorcycle thief is through electronics. Through something like the Cobra Alarm.

You don't need to be an electrical engineer to Cobra-ize your bike, since the system consists of only a sensing unit that's wired to a 110-decibel horn and the bike's battery. Follow the instructions for wiring and mounting and within an hour you'll have a motorcycle that, when tampered with, screams like a threatened banshee.

The moment the ignition key is turned off the system goes on, and springs into action if the bike is jarred or moved. The horn blasts for 60 seconds then automatically stops, so if the bike is accidently bumped, the horn won't blare until the battery drains all its engine-starting juice. After it shuts off, the Cobra re-arms itself, making it ready to snap at the next would-be thief.

All its bite is not venomous, though, because an override was incorporated so you can deactivate the Cobra whenever you want. Just turn off the ignition key and wait about 60 seconds. Turn the key on, then off again, and the sensor won't sound the horn, leaving you free to clean or service the bike without listening to 110-decibel beeps.

You can put even more bite into your serpentine sentry with the Cobra Pager. The Pager unit must be partnered with the alarm sensor so it knows when to signal the pocket-size pager receiver unit. The receiver clips to your belt or can be carried in a briefcase or pocket so it's always with you, ready to beep a message when things aren't all right with your parked bike.

Like the sensor and horn, the Pager transmitter mounts to the motorcycle. The coaxial cable antenna supplied with the Pager attaches to any non-metal part of the bike and works best when taped to fiberglass fairings or saddlebags. You can even substitute an AM/FM or CB antenna for the coaxial cable from the kit.

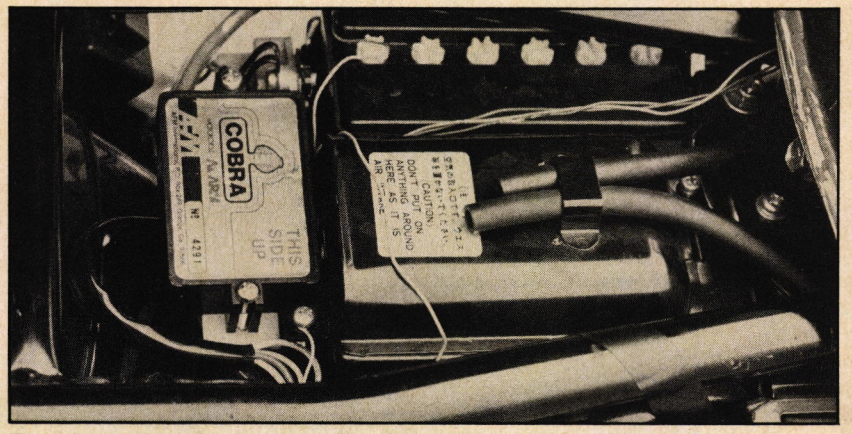
We armed a Suzuki GS550 with a Cobra Alarm and Pager by taping the antenna across the top of the fairing body. The wires were tucked out of view so snip-happy thieves couldn't short-fuse the system. When the bike was rocked, our Pager receiver picked up a signal just short of Cobra's claimed half-mile minimum pick-up range. Considering how long it would take to react to a warning beep from a half-mile away, the Pager probably shouldn't be regarded as the first line of defense against theft. Of greater importance to your bike's security is the Alarm, since its shrill blast should scare away most non-professional thieves who view your bike as an easy roll-away target.

The Cobra Alarm bites into your budget for $59.95, while the Pager subtracts $149.95 from your balance (together they sell for $199.95). The system is available from Micronics International, Inc., P.O. Box 6319, Anaheim, California 92806. It's not cheap, but neither is motorcycle insurance. Or for that matter, a new motorcycle to replace Old Paint that, without Cobra surveillance, one day could have 15 different homes.

*—Dain Gingerelli*

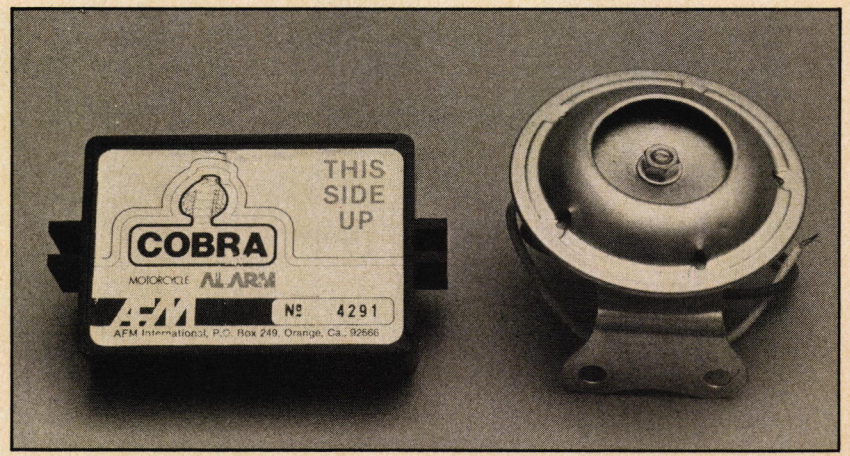
**Pager transmitter and receiver**

*Tools for bugging your bike.*




**Tucked secretly under the seat and ready to strike out at would-be thief**

*You may think it's hibernating, but the Cobra Alarm is always on guard.*




**Alarm sensing unit and 110-decibel horn**

*The $59.95 insurance policy.*

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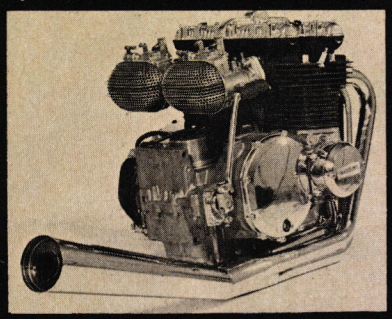

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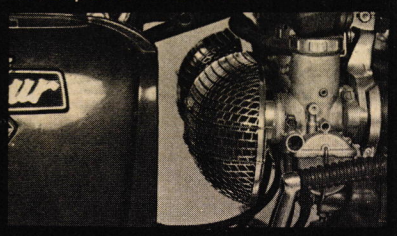

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## *PRODUCT EVALUATION:*

# Yamaha Mini-Cruiser Shield

*Give a little, get a little.*

• At times, looking cool on a motorcycle means actually *being* cool. Cool like in being shivering *cold*. This is especially true with custom-style motorcycles, for bolting any sort of conventional windscreen or fairing onto one of them is an unforgivable act down on Bad-Dude Boulevard, where windshields are likely to provoke more peer-group ridicule than foxtails and mudflaps on a roadracer.

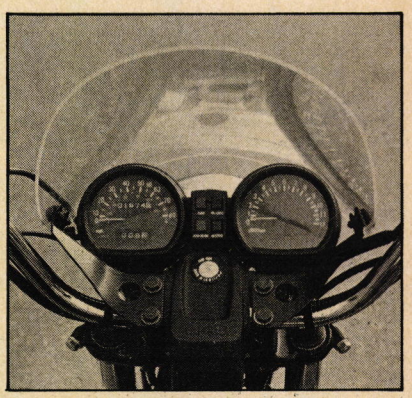
Yamaha, however, sells something of a solution to that wind-blown problem with an accessory called the Mini-Cruiser Shield—a clear windshield in miniature that is available to fit all of the Special models in Yamaha's street lineup. And it's designed to offer the Special rider a bit of protection from the ravages of wind and rain without seriously detracting from the bike's boulevardier image.

Essentially, the Mini-Cruiser is little more than a curved piece of Plexiglas about 15 inches tall and 11½ inches wide. It sits just above the headlight ahead of the instruments on simple bracketry that attaches to either the handlebar mounts or the handlebar itself, depending upon which Special it is mounted on. It's not intended to do the job of a Vetter Windjammer or anything of the sort but just to keep some of the wind off of a rider's torso.

And so it does. But not very much of it. For one thing, the smallness dictated by the styling priorities limits the amount of windblockage the Mini-Cruiser can provide. And the 45-degree rearward rake that the non-adjustable shield assumes when installed reduces its effective vertical blockage to just over eight inches. In effect, the shield pokes a hole in the wind about the size of this magazine turned sideways.

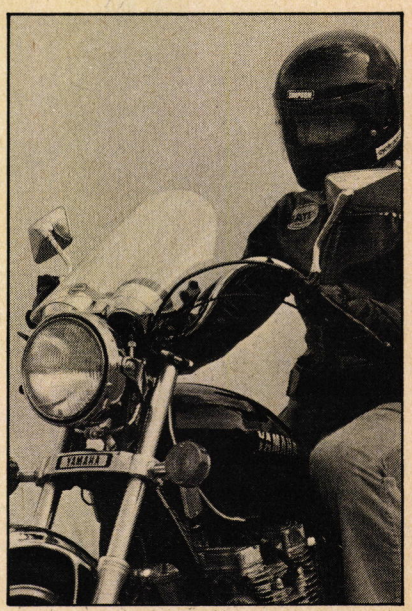
To gauge the Mini-Cruiser's on-road effectiveness, we bolted the hardware onto a Yamaha Maxim I 650 and then alternately removed and installed the shield during a 100-mile ride. And we found that although the shield did offer a bit more dead-air space between waist and neck, there was a slight increase in turbulence around the helmet. Not enough, mind you, to buffet the head, but certainly enough to add to existing wind noise. This effect will, of course, vary with riders of differing heights and with different helmets, but anyone taller than about 5-foot-7 will notice a stronger jetstream around his head. And impacting the edge of the raked-back shield in the event of a crash can only have the most unpleasant of results.

On the other hand, anyone faced with a long ride on a cool, damp night without a warm riding jacket will appreciate the added torso protection, regardless of how slight it might be. And the fact that the shield is quickly detachable with just four screws means that it need not be a permanent fixture. No, it doesn't offer a lot of wind protection; but at $44.95 (from any Yamaha dealer), you get just about as much as you pay for. —*Paul Dean*



**View of Cruiser Shield from behind bars**

*Mini-parole for prisoners of the wind.*




**Raked-back shield on laid-back XJ650**

*Spoiling the wind and not the looks.*

# SPORT LINES

*Cycle Guide's True Tales of Race Courses, Dark Horses and Machines at Speed*

EDITED BY DAIN GINGERELLI

PHOTOGRAPHY: PATRICK BEHAR

# Strategy for Endurance

*Winning isn't everything, but sometimes finishing is.*

• Eternity embraces you at the half-way point in an endurance race. You're all alone in a 150-mph motorcycle, circulating endlessly around a track that you've grown to know like your own driveway. There's nobody to dice with, and there'll be no checkered flag to greet you at the end of your stint in the saddle—you'll just hand over to your racing partner. Your pit crew looks like it's made up of mannequins, frozen in time, as you drone past at top speed. They can't feel your aching muscles and numb butt.

Endurance racing is moto-warfare. The battlefield is the track and the trenches are the pits. It matches speed against mechanical misfortune, for the bike that finishes the most laps at the appointed hour wins the race. In the past two years, endurance racing has gained currency as one of the foremost expressions of roadracing, and annual events at Nelson Ledges, Ontario, Seattle and Charlotte have attracted major sponsors and fierce competition. Endurance racing isn't glamorous like sprint racing. And just as the nature of the racing is different, so too the riding skills and racing strategy are different when you go for distance. Events at the annual Ontario Six Hour brought those skills and strategies into focus.

Reg Pridmore, three-time AMA Superbike champ and winner of the 1978 Ontario Six Hour says of long-distance racing's demands

*Continued*

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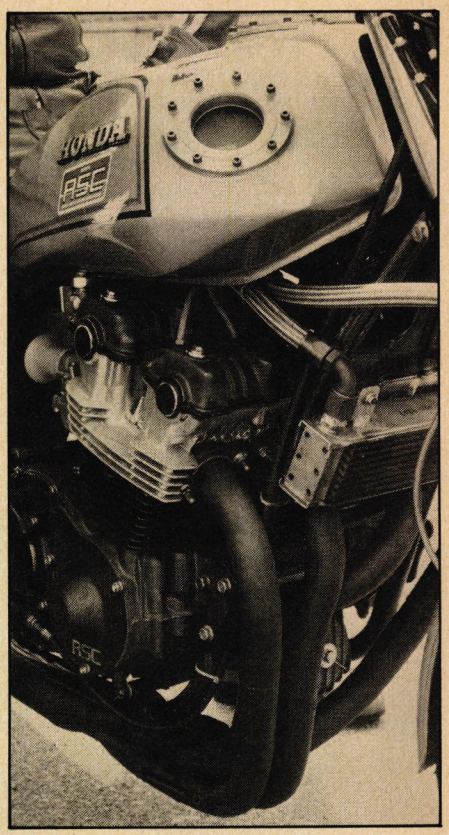


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*Gas warfare returns to the trenches.*

upon the racer, "A good endurance racer has to be able to adjust to conditions. He has to understand the bike, and know when its handling characteristics change, and at the same time read the track—look for oil and other changes in the surface that can cause problems." Essentially, a rider must probe the bike's behavior for changes while simultaneously concentrating on sustaining his speed.

There are two schools of thought by which most endurance riders swear. One school believes that the fast bikes will break before the end of the race. And in order to finish first, you must first finish. The other school says that it's best to race hard for the entire distance, and finish first or break trying.

Pridmore believes the level of competition in endurance racing is so intense these days that most endurance races are won by teams that go all-out from the green flag. Ironically, he raced with Dennis Smith as part of a team in the Ontario Six Hour that had quite a different strategy. Smith, the owner, chief tuner and rider of the Cycle Tune GS1000S said, "We built this engine with reliability in mind. It's milder than our Daytona sprint engine, and the larger displacement—legal for the Six Hour—actually makes it easier to ride in the infield corners, so Reggie and I didn't get as tired as we do in a 10-lap race where you're using a more tempermental Superbike engine."

The Racecrafters' team lived up to the slow-but-steady school of endurance racing thought by equipping its Z-1 with auxiliary fuel tanks, expecting to trade pit time for track time. Rider David Emde said, "It'll take 2:05s to lead

the race. We'll do eights and nines, but make only three stops. We hope the fast teams waste time refueling in the pits and have to make tire changes. If so, we'll be steady-Eddies and come home first." Racecrafters' lead rider Harry Klinzmann responded when asked about the reliability of the electric pump integrated into the fuel system, "If the pump breaks, we're out of luck and we'll watch the race from the pits."

Winner's luck didn't ride with either the Cycle Tune or Racecrafters' team at Ontario, however. They were third and fifth, respectively. Instead, there were factory racers up front, an indication of the popularity endurance racing has achieved. Freddie Spencer and Ron Pierce teamed up on a Honda to take the checker in first, closely followed by the team of Aldana/Lawson on the works Kawasaki Z-1.

The only real problem faced by the two leading teams was that the slower riders composed a moving chicane on the 3.25-mile track. But there was no alternative, really. Only about a dozen bike-and-rider combinations were capable of turning 2:10 lap times, which left 76 bikes recording lap times from 2:11 to 2:30. And because endurance racing is the last remaining outpost of amateur competition, most of the slower riders had no professional experience. They're thrown into the lion's den with racers perfectly comfortable with 150-mph trap speeds on the banking of Ontario's combination oval and road course. And that means a nasty speed differential between the Superbikes and the slower RD400s and GS750s that fill out the grid of any endurance race. Says Pridmore of this problem, "The speed differential makes you think especially hard about passing slower riders. Some bikes have a speed differential of over 30 mph. As far as the Six Hour is concerned, something bad is going to happen—somebody is going to get hurt unless we have qualifying times to weed out the less experienced riders."

**Trench soldiers of endurance racing warfare**

*A saga of busted knuckles, oil-stained overalls and a six-hour seige.*

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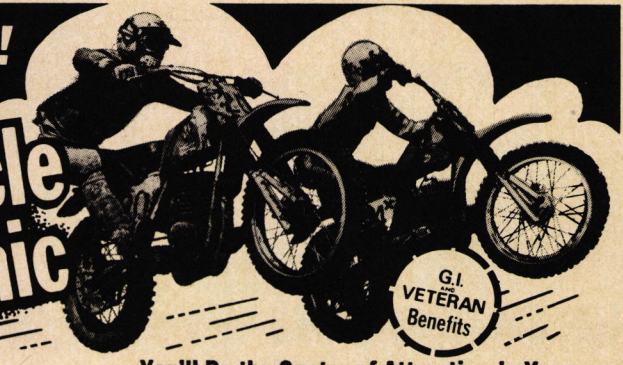


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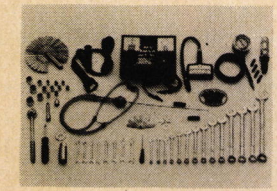

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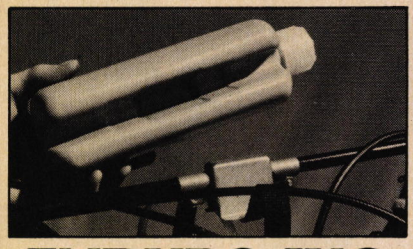

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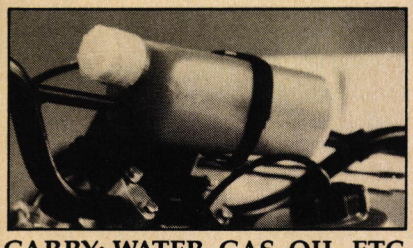

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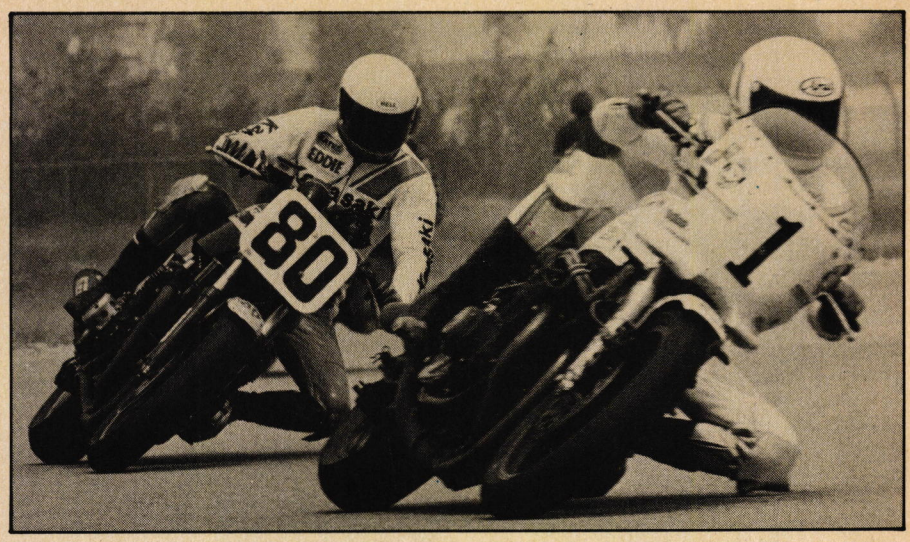

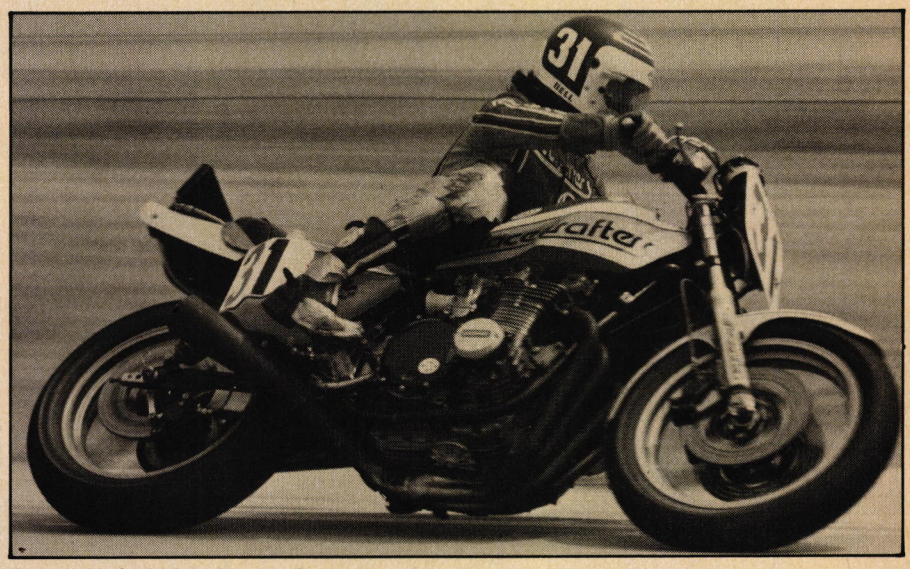

**Racecrafter's dual-pod gas tanks**

*Wings over Ontario.*

which sanctioned the race, indeed set a qualifying time to weed out the slower riders, but since not enough bikes showed up to fill out the field, all were permitted on the grid. The black flag was to be shown to any bikes slow enough to be a problem.

No matter how hard you try to weed out slower bikes, though, the moving chicane will always be a part of endurance racing because bikes from all displacement classes are needed to fill out the field. Emde, who has finished each of the Six Hour events at Ontario and won twice, says of the problem, "There are some riders I just won't pass until I'm safely on the straight. But most of the time I don't feel rushed to pass during a long race like the Six Hour, so I'll hold off until it's safe. Patience, that's all it is." Even so, the calmest of riders can run afoul of slower bikes and crash, as 1979 AMA Superbike champion Wes Cooley did with less than an hour to go.

Patience is still the crucial factor in winning endurance races, though. You must absorb yourself in gathering laps and stick to your game plan. You can create new problems just by trying too hard to go fast when it's not necessary.

A winning team in endurance racing establishes a rhythm very early on and miraculously encounters no setbacks. Each rider does his stint, watches the pit board for signals to come in for fuel, makes his stop without incident and then relaxes as his partner continues the battle. That's the kind of textbook-perfect race it takes to win and that's the way the winning team of Spencer/Pierce rode their Honda. Once Spencer took the lead on lap three, there was virtually no challenge. And throughout the race, the team stuck to its pace and its strategy. Pridmore puts it best: "An endurance race is won not only with a well-prepared bike that's fast, but by riders who think about the race. And I know Ron Pierce is a thinker, perhaps the best one out there."

Some of Pierce's endurance-racing prowess obviously rubbed off on the sensational Spencer, for they both showed they had long-distance discipline. Maybe the extra asset they had that day was luck. They didn't need a lot, just six hours of it. —*Dain Gingerelli*

# New Rules for Long Races

## *Strengthening Honda's grip on endurance racing.*

• Endurance racing came a long way to finally attain world-championship status in 1979, building enthusiasm for the sport on a multi-marque confrontation of four-stroke roadracers. For 1980 the series will again carry world-championship ranking, but in a mystifying move, the International Federation of Motorcycles (FIM) has changed the rules to squeeze out any competition for the all-conquering Honda RCB endurance bikes.

During the FIM congress in Montreux, Switzerland, new rules were hammered out to make the endurance racers virtually identical to the Formula 1-specification machines that have their own series in Britain and compete at the Isle of Man—they're basically a mixture of production-based engines and GP-caliber chassis. Limited-edition prototypes like the present RCB bikes now are prohibited, but so are four-stroke engines displacing more than 1000cc and two-stroke motors of more than 500cc.

All of the Japanese marques had non-voting representatives at the Congress, but the man from Yamaha must have felt the most uncomfortable. The rule regarding 500cc two-strokes aimed to exclude the TZ750s that have threatened to win the Bol d'Or in the past two years—and might have become a definite power in the series now that the 750cc GP world championship has died after a long illness. Yamaha doesn't have much hope of fielding a four-stroke in the new endurance series, either. The new rules not only prohibit four-strokes of more than 1000cc, they prevent larger-displacement engines from being sleeved down to meet the limit.

Kawasaki, the most persistent challenger to Honda's recent domination, also faces hardship under the new rules. The Kawasaki engine used by the top-ranked French "Performance" team displaces 1015cc, like all the current generation of big Kwackers. The team could bring their 900cc Z-1 motors out of storage, but then it would be forced to use that engine's 28mm carburetors, while the Honda CB900 engine uses 32mm carbs. Kawasaki tuners felt that fuel injection—recently introduced on the Classic—was the only way to out-power the Hondas, but the displacement limit removes that alternative.

Suzuki's 997cc engine as used by Suzuki endurance teams remains unaffected by the new ruling, but the motor hasn't really been a serious threat up to now. Suzuki's new AMA Superbikes use larger-displacement engines while the 16-valve GSX engine also exceeds the FIM displacement limit.

Don't worry about Honda, though. The prototypes raced during 1979 will be replaced by fabulously expensive "racing kits" for the CB900F engine, complete with magnesium carburetors and other exotic tricks. Moreover, Honda has supported Formula 1 racing at the Isle of Man since 1977, providing it with lots of experience with the new specifications.

Conspiracy theories abound about the source of the new rules, but there's no use blaming the marques themselves, since they have no voting power at the FIM con-

*Continued*


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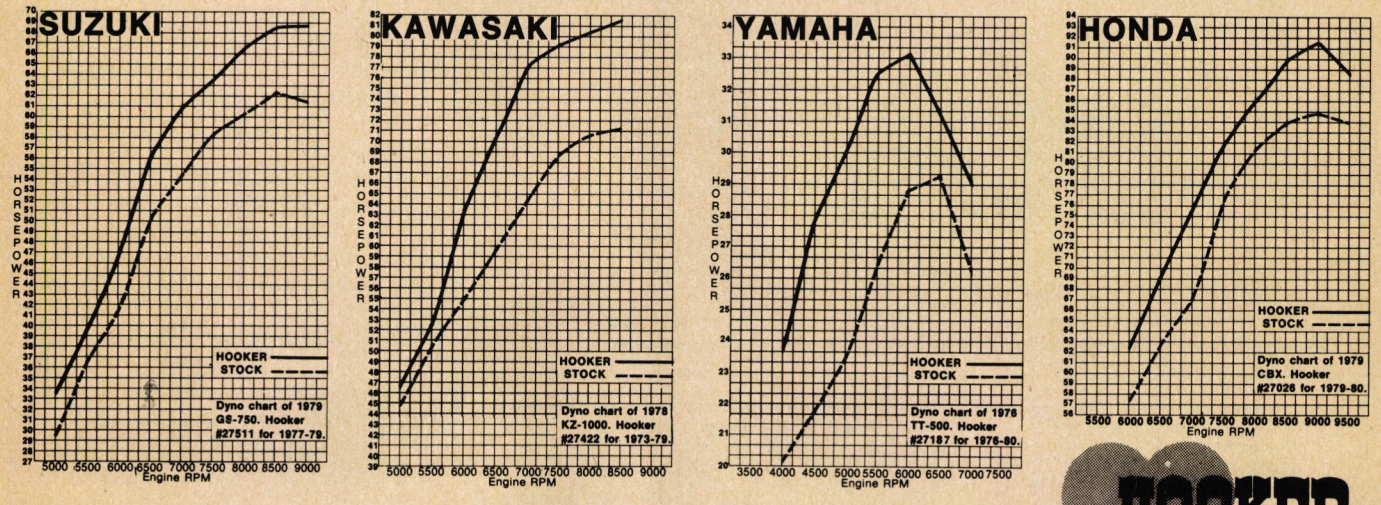


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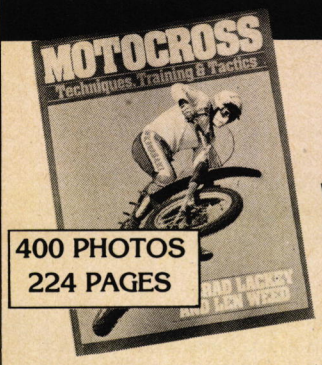


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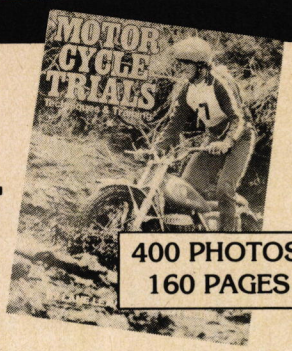


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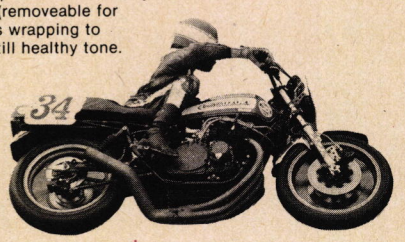


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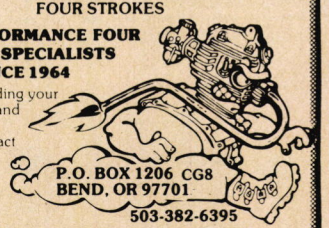

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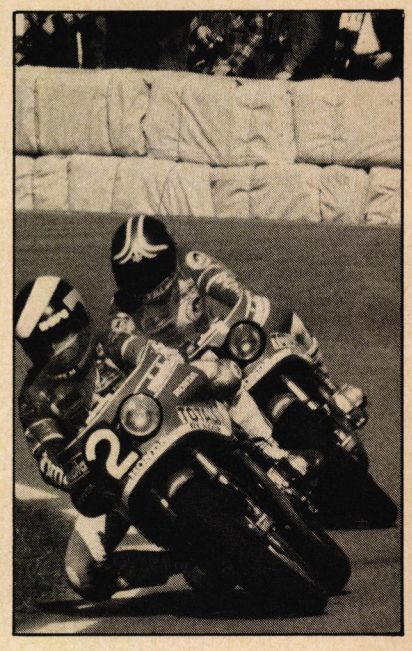


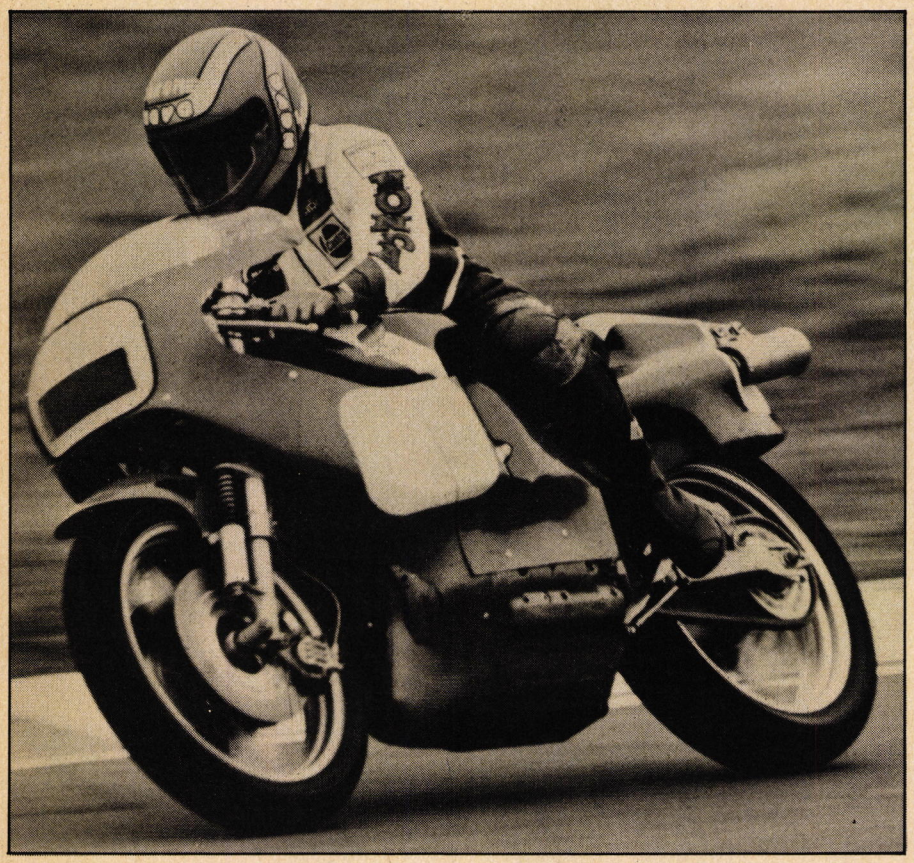
gress. Instead, you must look toward the national federations—especially the British Auto-Cycle Union (ACU).

While there are many hidden stories behind this new development in endurance racing, the most important thing is that the spectators probably will be shortchanged, at least during 1980, for far fewer marques will compete. Already many of the traditional endurance racing events have withdrawn from the championship in order to allow 1979-spec bikes to participate. Discussions were held at FIM Congresses early in the year about the new rules, and the Road Racing Commission even recommended that they be postponed until 1981 to allow more new racers to be built. Unfortunately, the Central Bureau turned the suggestion down.

So even though the trend away from factory-built prototypes might be a good thing—although some racers point out that the Le Mans 24-Hour auto race lost much of its appeal when prototypes were de-emphasized—at least in the short term far fewer bikes will be seen on the track. Next year, of course, the FIM is hopeful that Yamaha's new four-stroke V-4 with shaft drive will appear and that Kawasaki will follow up on its recently released one-off endurance racer with a big-valve, twin-sparkplug Z-1 (speculation is that this engine will be in production in 1981). Apparently, the manufacturers actually prefer the new production-based rules, because it means they can turn their racing efforts over to the national distributors, leaving factory engineers to devote themselves to GP racing where Honda, Yamaha, Kawasaki and Suzuki are heavily involved. But whether spectators and promoters can sustain their interest with just intra-Honda squabbling on the endurance racing scene until the new bikes appear remains to be seen. —*Paul Salvaire*

# NR500 Crystalball Gazing

*Down, but not out, Honda may try turbocharging.*



• The strange saga of Honda's NR500 continues as the bike keeps on grabbing headlines without winning a race. A recent conversation with Syoichiro Irimajiri, a Director of Honda Research and Development Company and titular head of the NR500 project, revealed that withdrawal of the bike from competition last spring until more development could be conducted was not due to a lack of horsepower—just the opposite, Irimajiri claims.

Apparently, reports of the V-4 engine's light-flywheel nature were accurate. But while such an engine is able to build rpm as quickly as a two-stroke motor and doesn't drag its rear tire under braking like most four-strokes, power arrives with such ferocity when it gets up on the cam, that the rear wheel spins and the bike is almost uncontrollable. So while the NR500 motor idles at 3000 rpm, begins to pull at 6000 rpm thanks to careful carburetion, the bike practically pops sideways when the power comes in at 12,000 rpm.

It's thought that Honda will experiment with more flywheel weight during the bike's time away from the GP circuit (although rumors persist that a replacement two-stroke lies waiting in the wings), but Irimajiri says an even more interesting development may be in store for the engine—turbocharging. Honda has already proposed to the FIM that an equivalency formula for turbocharged four-strokes be built into the rulebook. Irimajiri believes that such an engine could be very competitive in terms of power, and economical besides. The two major problems of any racing turbo—throttle lag and overheating—can be solved, as Renault's success with its twin-turbo 1.5-liter V-6 in Formula One car racing proves.

Irimajiri speaks of turbocharging in a way that suggests Honda already has conducted substantial experimentation with it. He believes such an engine can do without an induction intercooler as long as it's watercooled (and Honda's work with innovative cooling techniques for the NR500 should insure that cooling isn't a problem), and it will deliver lots of power with predictable throttle response as soon as fuel injection is installed, and Honda experimented with fuel injection with last year's endurance racing bikes. The only problem is the fact that Honda policy demands that all technology be developed inside the company, meaning it cannot go to Garrett AiResearch, the world's foremost producer of turbochargers, for parts and consultation.

In the meantime, Irimajiri lost his bid to become the fifth man ever to ride the NR500—the others are Honda Racing Center ace test rider Oguma-san, and Team Honda riders Takazumi Katayama, Mick Grant and Ron Haslam—when the bike blew up while he was waiting in the pits. Well, perhaps he'll just have to wait his turn until the turbo appears.

—*Michael Jordan*

*Continued*

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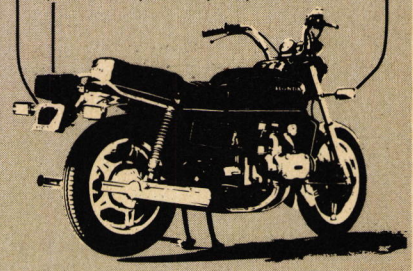

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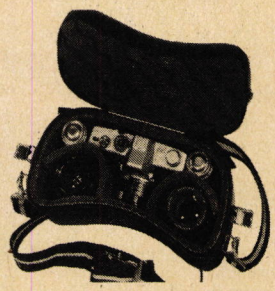

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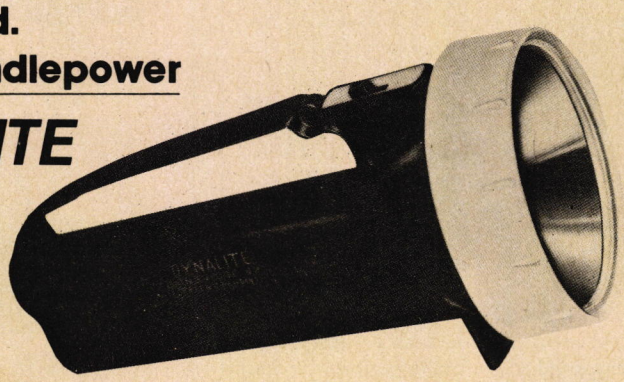


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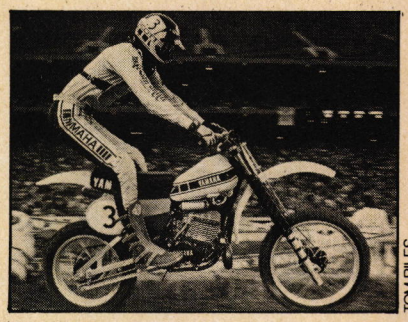



TOM RILES

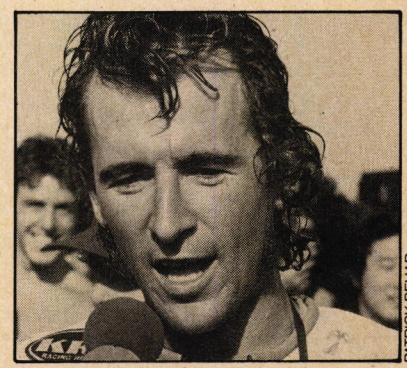
**Mike Bell at Pontiac**

*Leader of the moto-tag team.*

• Despite charges of tag-team riding by Yamaha's motocross team that made passing difficult, not to mention hard-riding Moto-X Fox privateer Jo Jo Keller, Kent Howerton continues to prove himself capable of filling Bob Hannah's shoes by dominating stadiumcross and outdoor events alike. And now that Howerton has received a single-shock GP-replica RH250 with a few tricks in the carburetor department, he'll be even tougher to beat than usual. Yamaha has unleashed a batch of OW40 bikes with engines that utilize the adjustable exhaust port Power-Valve technology developed on its roadracing bikes, but riders Bell, Tripes and Staten can't keep pace with the team leader from Suzuki.

• As long as you're talking hot streaks, you might as well mention Hank Scott's back-to-back victories on the Mile during the Winston Pro circuit's western swing to Sacramento and San Jose. Scott charged from mid-pack in the last few laps both times to claim the checkered flag. His record of six Mile victories makes him the second winningest Mile rider in active competition—behind Jay Springsteen who ended his brief respite from competition because of health problems with a second place at San Jose.

• Kenny Roberts has also put together a hot streak with a series of wins on the GP circuit, but he complains that the competition seems less intense than in years past. In truth, Wil Hartog has not been able to get



PATRICK BEHAR

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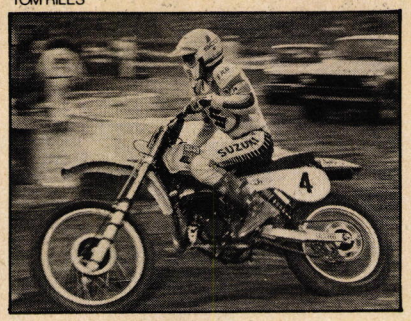


**Howerton, alone and free**

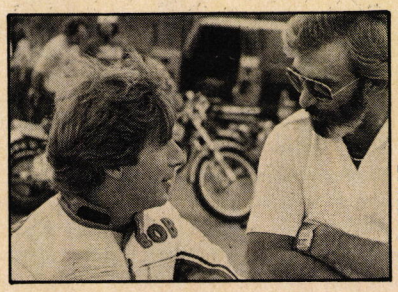
*But still part of a Yamaha sandwich.*

his Suzuki near the front while Barry Sheene is still wrestling with his TZ500. Virginio Ferrari had been expected to be Roberts' prime competition again this season, but a split with new sponsor Serge Zago leaves him at loose ends in the 1980 championship. Only a mixed bag of Italian riders and Randy Mamola have shown potentially winning form.

• Drag bike rider Terry Vance has ended his winless streak thanks to victories in IDBA and NMRA competition aboard his Suzuki GS1100. Vance's prime rival, Bob Carpenter, looks set to abandon his Kawasaki Z1-R for a new GS1100, following Vance in his switch to Suzuki as well as to R.C. Engineering sponsorship, Vance's 1979 backer. Still, Carpenter commented at a recent test session that some ignition and handling problems remain to be solved.

• A four-stroke finally broke the Yamaha TZ750 stranglehold on AMA Grand National roadracing when Wes Cooley piloted his Yoshimura Formula 1 bike to first place at Elkhart Lake, June 1. The two-stroke string dates back to 1972 when Cal Rayborn won the Laguna Seca National aboard an aging but worthy four-stroke Harley-Davidson. Since then, it has been Yamaha, Kawasaki, and Suzuki two-stoke domination at every AMA National roadrace.

• Finally, the notion of following in another's tracks applies to a recent move by Honda to supply their riders with practice bikes. An authoritative source claims that the limited supply of Pro-Link race bikes has forced Honda to purchase a batch of Yamaha YZ465s for practice use. The awesome YZ apparently shares many of the handling traits of the Pro Link design. •



JOEL T. BREAULT

**Carpenter and Collins**

*Number One replaces number one.*

*Continued*

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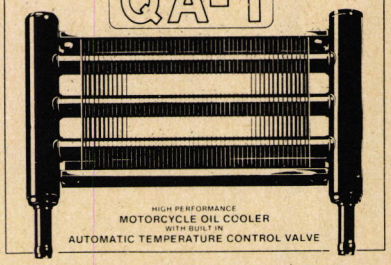

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# Fast Jon is Finally Fast

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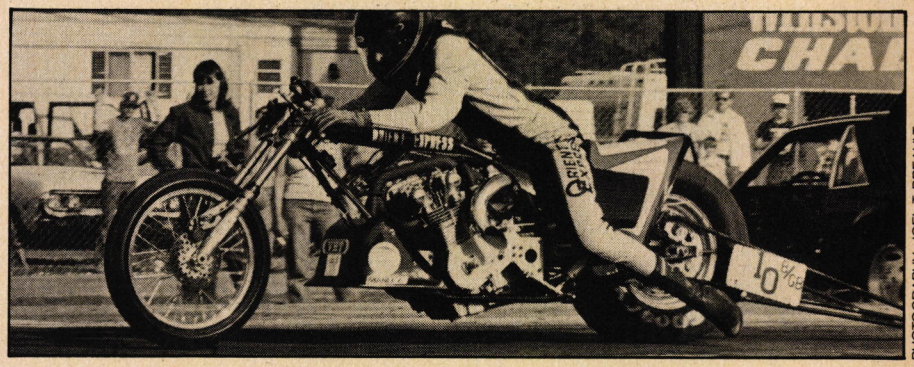


PHOTOGRAPHY: JOEL T. BREAULT

• Fast Jon Baugh is a professional dragracer who has finally found that elusive combination of factors that produce winning speed. As *Cycle Guide* reported in the December 1979 issue Baugh's lament last season was typical of many racers on all types of machinery. A story of promising speeds, broken components and too many expenses. "It takes a lot of time to get things sorted out and make them work," declares Baugh. "Last season I learned, this year things are working. Probably the best thing I found out was that I should stick to riding and leave the wrenching to somebody else."

Much of Baugh's success comes from the way he's able to work with his partner in racing, Jack O'Malley, a man who shares the same deep commitment to dragracing that Fast Jon does. For O'Malley, dragracing is more than just a hobby—it's his business. Orient Express Motorcycles, of Freeport, New York is O'Malley's shop and Fast Jon's benefactor. Together, Baugh and O'Malley work as a team. And as a result, the Orient Express turbocharged Z-1 is no longer an also-ran at the quarter-miles.

Jack O'Malley handles the tuning duties. "We spent a hell of a lot of time on the dyno this winter," states O'Malley. "We can't get hardly any track-time because of the cold and snow, so the dyno is all we have. Our biggest problem, though, is finding parts that are good enough to hold up under the strain of turbocharging—at least good enough to get two or three tenths advantage on the competition."

O'Malley is an innovator of metalcraft—that's why he's into turbocharging. Even so, O'Malley says, there's more hard work than secrets in his motorcycle. "There isn't any magic or voodoo involved in building race motors. You just have to take the time to get everything to fit and work together at the same time. Everything on the bike has a job to do, from the rider to the wheelie bars." O'Malley's hot rod-philosophy is based on proving parts before they're put into competition. There's no product loyalty unless it works. "We start with commercially available parts, all right, but they get the full treatment. We've modified practically every part in the motor. There's a lot of milling time and lathe work in the motor. We start with what's available, try and break it, and then try to make it work at the strip. We use our own cam designs, Wiseco pistons built to our specs and specially modified intakes. If there's a secret or magic, it's in the sizing of the turbo's impeller. Porting the cylinder to work with the turbo is another secret. Well, it's not really a secret. It's an awareness that turbos breathe differently than normally aspirated bikes."

Whatever it takes to build a winner, Baugh and O'Malley have evidently found the correct combination of secrets, magic, voodoo and luck. "We won the DRAGBIKE! season opener at Bradenton with the Pro Comp bike," reports an enthusiastic Baugh. "The bike ran great. Then we won the NMRA Super Eliminator title at Gainesville. We also set both ends of the national record for A/D Turbo." The new numbers stand at 8.47 seconds elapsed time with a top speed of 162.45 miles per hour. Two weeks later, the Baugh and O'Malley combo grabbed the win at the IDBA's season opener at Gulfport. They also lowered the B/Gas record to an incredible 8.28 seconds. Fast Jon raised the miles per hour record to 165.13—and this was on pump gasoline—no nitro or alcohol.

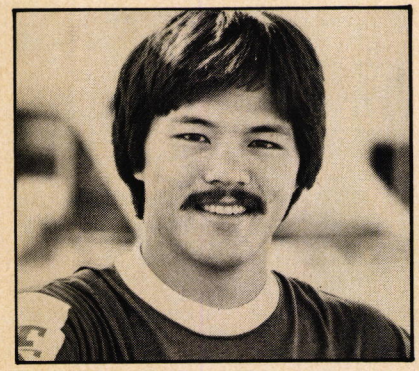
Baugh and O'Malley are reaching outlandish performance levels with their small, single-engine, turbocharged Kawasaki. They're hitting speeds and clocking ETs that only the most exotic nitro-powered machines could achieve just two seasons ago. You can bet they have their secrets, talents and skills—and maybe a magic wand or two—tucked in their tool box drawers. Maybe that's what it takes to make sure Fast Jon keeps going faster.

*—Joel T. Breault*

# Winners & Losers

## Chuck Sun Comes Back

*The Sun also rises—and falls and rises.*



**Back home with Chuck Sun**

*Training for international duty.*

• Chuck Sun's race career follows a Hollywood scenario: Small-town boy makes good with factory sponsorship, then heads for the Continent to try the Grand Prix circuit. After mediocre success he settles for a factory ride in America.

End of story? Our hero settles back into a sedate life of security and luxury in the U.S. rather than try again to become World Champion? "No," says Sun. "I'll return to Europe. For now I'm going to ride the 500cc Nationals for Honda, but I put it in my contract that when the schedule allows, I can race a few GPs. It's in my future to do the Grand Prix circuit."

With all the problems associated with racing the European circuit, one has to wonder why a rider would pass stateside comforts to hassle customs in a foreign country. "I think the Grand Prix circuit in Europe is true racing. It's tough here in the States, too, but there are so many good riders from all over the world who get together in the world championship 500cc class that the competition is just incredible," explains the young man who finished second in one moto at the Trophy des Nations in 1978. But it's a little more than just the close competition of GP racing that attracts Sun. "People ask what is so special or different about racing in Europe, and I have a hard time explaining. It's just the different foods and countries and languages that give the Grands Prix a certain air about them—a feeling of excitement."

Professional motocross racing is tough. No matter what country you're in, it's a struggle against the elements, competitors and yourself. Bad days and bad luck can sap a racer of drive to excel. Says an introspective Sun, "I've looked back and seen so many guys who were in the same position as me, but somehow I made it and they didn't. I've thought, 'Why am I so lucky, what have I done to be able to make it to here?' Well, I guess it was just determination—sticking it out when things didn't go right. And some talent mixed in from God."

The young rider from Sherwood, Oregon has surely seen dark days in motocross, too. During his first year of national competition in 1975, he arrived at tracks with just his Husky Open-class bike in the rusty trailer behind his pickup. His one-man team was competitive, but sometimes he had to beg spare parts from the factory-sponsored Husky riders so his bike could make the grid for the second moto. His efforts didn't go unnoticed though, and he gained backing from the factory in late 1977, including an opportunity to go to Europe and race for the 1979 season. But before he could pack his bags and passport, a broken throttle at a Texas race caused him to crash into a tree at high speed, severely injuring his leg.

Sun fought back from the injury quicker than anticipated, and he immediately picked up his Husky and headed for Europe and the GPs. "People really expected me to do good," explains Sun, "and I didn't because I broke my wrist in February when I first got over there. I was fighting back from that injury for a couple of months and was starting to get strong again, and even finished top American at the Carlsbad GP. Things were looking up until I tore a cartilage in my knee the next week."

After these three sequential disappointments, Sun developed this basic philosophy about injuries: They're not just a matter of fate. "The funny thing about injuries," says Sun, "is they can be positive. I've learned that you have to recover slowly from an injury, ease into it. Well, I've learned that same technique should be used for training, too." Sun carries that attitude onto the track. "I think patience on the track is really a big key. You have to know when to go fast. Some riders get nervous and intimidate themselves into thinking they have to go fast *right now*!"

Chuck Sun has a factory contract with Honda to ride the new Open-class Pro-Link in the Nationals and Europe. "When I originally decided that motocross was going to be my livelihood, I decided to take it all the way, to always do my best. I want to be No. 1. "Chuck Sun might be back in the U.S. again, but he's still headed in the same direction.

*—Terry Whytal*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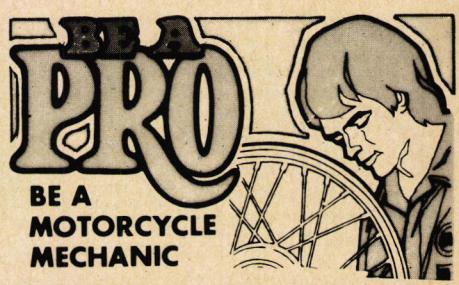


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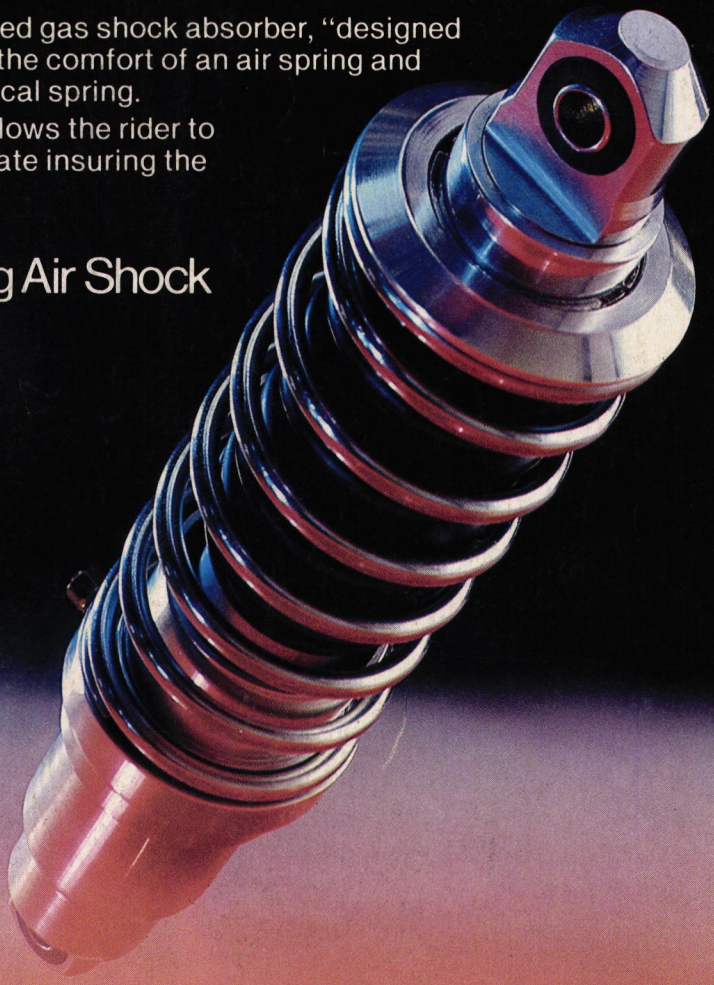

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